APRIL 28, 1952 NEWS ISSUE

Electrical World

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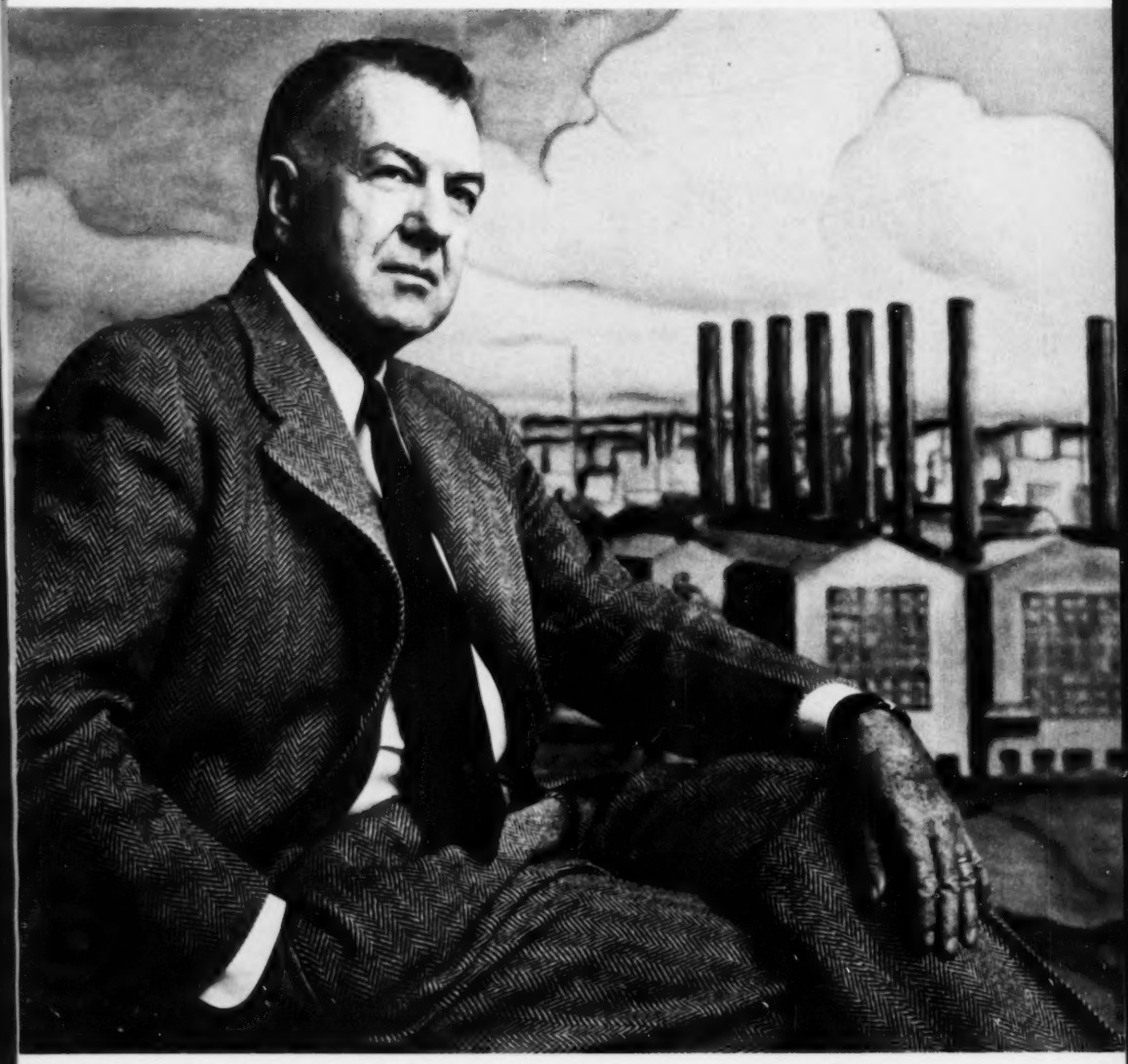


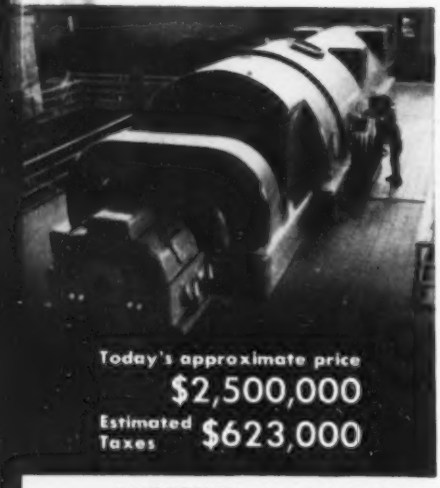
Harold C. Leonard: A Louisiana executive heads the Southeastern Electric Exchange . . . Page 28

Kootenay Line Span Is 2 Miles Long . . . Page 32

Consumers Averse to Buying Appliances . . . Page 50

RECORD ATTENDANCE of more than 2,000 heard G-E President Ralph J. Cordiner point out that the company's tax bill—$402,000,000 in 1951—represents $1000 every 78 seconds of the year. Meeting was probably largest of its kind ever held by a U. S. company.

G-E share owners told of danger to industry in increasing tax burdens



EFFECT OF TAXES on the nation's electric power expansion is illustrated by modern 100,000 KW turbine-generator where taxes, including those paid by suppliers, are estimated to represent 24.9% of the approximate delivered price.

"Taxes cannot continue to rise or even stay at present levels without stunting the future growth of the nation," said President Ralph J. Cordiner at the 60th annual meeting of G-E share owners this month.

While recognizing that companies like General Electric must carry their fair share of tax burdens, he saw danger in the fact that taxes may take so much that there would not be a sliver left for the share owners whose investments make business possible or for continuing investment in research and facilities for new products. "Taxing profits out of existence also taxes progress out of existence," he said.

In underscoring the effects of present tax policies, General Electric makes a timely contribution to the long-continued program of the electrical industry to promote a better understanding of the influences endangering America's business-managed companies and their role in building the nation's economic and military strength.

The estimated 10,000,000 share owners of American business can exert a powerful influence in insisting that spending and taxing programs take into account the need to encourage the investment essential to future productivity and prosperity. General Electric Co., Schenectady 5, New York. 301-197

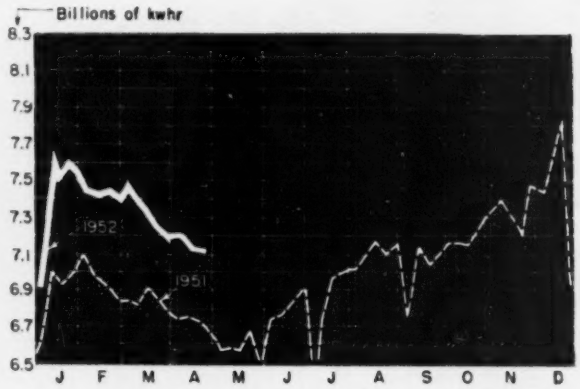
MORE POWER TO AMERICA

GENERAL ELECTRIC

VOLUME 137, NO. 17

April 28, 1952

Electrical World



Output Week Ended April 19—7,120,000,000* Kwhr

Per Cent Change From Previous Year

	Total US	New Eng.	Mid. Atlan.	Cent. Ind.	West Cent.	South-east	South Cent.	Rocky Mount.	Pacific NW	Pacific SW
April 19	+5.8*	(Data on regional change not available at press time)								
April 12	+6.0	+2.1	+4.7	+2.6	+5.3	+12.0	+20.5	+6.8	+5.9	−0.6
April 5	+7.2	+4.4	+4.3	+5.6	+7.4	+12.5	+20.9	+7.4	+8.2	−1.5

Electric Power Statistics

		Latest Month	Preceding Month	Year Ago
Peak Load (Million Kw)	Feb.	64.8*	69.0	62.4
Capacity (Million Kw)	Feb	75.99	75.97	69.42
Production (Billion Kwhr)	Feb.	31.54	34.20	28.22
Hydro		9.46	9.90	8.21
Fuel		22.07	24.30	20.01
Fuel Consumption				
Coal (Million Tons)	Feb.	8.74	9.87	8.59
Oil (Million Barrels)		4.77	6.07	5.57
Gas (Billion Cu Ft)		54.82	52.27	40.50
Sales (Billion Kwhr)	Feb.	29.08	29.72	26.50
Residential		8.51	8.87	7.58
Commercial		4.87	4.99	4.87
Industrial		13.82	13.90	12.64
Other		1.88	1.95	1.79
Net Income Class A & B Utilities ($ Million)	Jan.	86.59	100.82	75.82
Estimated Dec. 52 Peak (Million Kw)	Feb.	8.05	8.06	78.0
Kwhr per Residential Customer (12 Month Average)	Jan.	2,021	2,004	1,848
Revenue per Kwhr Residential Service (12 Month Average)	Jan.	2.81¢	2.81¢	2.87¢
Canadian Production (Billion Kwhr)	Feb.	4.97	5.27	4.38

Business Statistics

		Latest Month	Preceding Month	Year Ago
FRB Industrial Production Index†††	Feb.	218*	216	217
Gross National Product Annual Rate ($ Billion)	1st Qtr.	339.0*	334.6	319.5
E. W. 5 Industry Production Index	Feb.	124.8	124.4	119.7
ENR Construction Cost Index††	Apr.	116.2	115.4	112.9
BLS Consumer's Price Index	Mar.	188.0	187.9	184.5
NEMA Insulation Materials, Sales Index†	Feb.	528	548	552
NEMA Electric Appliance Sales Index†	Feb.	224	233	343
NEMA Household Refrig. Sales Index†	Feb.	153	153	238

* Estimated. † 1936 = 100 †† 1949 = 100 ††† 1937-39 = 100 (Unadjusted)

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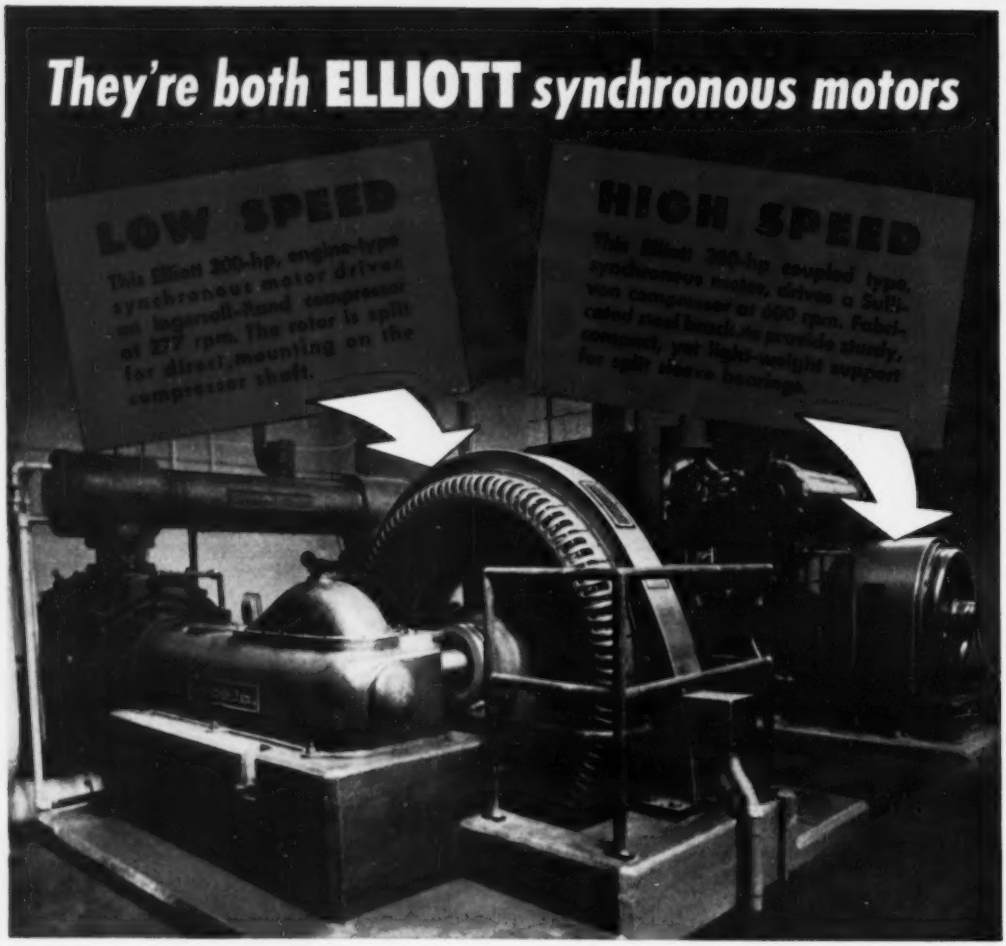
They're both ELLIOTT synchronous motors


LOW SPEED
This Elliott 300-hp, engine-type synchronous motor drives an Ingersoll-Rand compressor at 277 rpm. The rotor is split for direct mounting on the compressor shaft.
HIGH SPEED

All Elliott synchronous motors feature "Fabri-Steel" construction to provide extreme ruggedness, uniform air gap, simplicity of maintenance, and other characteristics of long life and improved performance. Get all the facts. Write today for Synchronous Motor bulletins PB5600-1 (high-speed) or PB5000-1 (low-speed). Address Dept. EN.

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THE ELECTRICAL WEEK

Featured In This Issue

Senate Foreign Relations Committee reports St. Lawrence Seaway legislation to the floor for debate (p 7). . Flood control controversy rises anew along with the waters of the Mississippi and the Missouri (p 8) . . . **Secretary Chapman** trims his requests for Interior power funds (p 10) . . . New York State Electric & Gas uses informal forums to promote understanding among its supervisors (p 16) . . . . **Cincinnati G & E** uses "showmotion" to promote its products and ideas (p 22) . . . Utility in British Columbia is erecting the world's longest power span (p 32) . . . **Utility security prices** went up, yields on stocks and bonds down during the last quarter (p 42) . . . Consumers seem averse to buying appliances (p 50).

• • •

Latest from Washington—DPA soon will outline the method to be used in **relaxing controls on aluminum and steel,** but has not said when the method will be used . . . An FPC examiner has recommended that natural gas be made available to a **Duke Power** plant at Wilmington, N. C. on an interruptible basis for use as a boiler fuel . . . **Texas-Ohio Gas** is seeking a federal license and a presidential permit to import gas from Mexico to serve customers of its pipeline which extends from Texas to West Virginia . . . AEC has accepted what it terms "an attractive proposal" from **Detroit Edison** and Dow Chemical to explore feasibility of producing commercial electric power from atomic energy . . . Unless supply of nickel loosens up, production of **gas turbines** may be cut back . . . DEPA urges utilities to keep a close tab on **delivery schedules of B products** and component parts in order to avoid delay of major plant construction additions.

From New England—Before 1953 more mergers of **New England Electric System** operating properties into larger units are anticipated. Steps are being taken to unite New England Power and Connecticut River Power companies into one wholesale generating and transmission organization . . . Pres Sherman R. Knapp announces **Connecticut L & P** has ordered two 75,000-kw steam units for 1953 and 1954 delivery. First is for Montville plant and other will "box the compass" diagonally for installation in southwest portion of state, where loads are also growing fast.

From West South Central—Abbeville, La., City Council will call an election for sale of municipally owned utility system if a fair proposal is made by **Gulf State Utilities,** Mayor J. E. Kibbe says.

Financial—New England Electric System's new money requirements for 1952 now are estimated at $35 million . . . **Northern States Power Co of Minnesota plans to** sell $21.5 million first mortgage bonds, competitively, and to offer about 1,109,000 shares first to commonholders on 1-for-10 basis . . . **Central Vermont PS** will pay May 15 common dividend of 20¢ a share to holders of record April 30 as compared with 19¢ a share in previous quarter . . . **Atlantic City Electric** common stock hit a record high of 25¼ on Monday, April 21, on the New York Stock Exchange.

Labor—Arizona Public Service and IBEW, AFL, agree to 4.19% wage boost. The increase, based on cost-of-living allowances, will also go to office workers . . . For free copy of **"The National Apprenticeship Program"** booklet, write Publications Branch, Bureau of Apprenticeship, U. S. Department of Labor, Washington 25, D. C. . . . **A 41-day strike** of power plant workers ends in Melbourne, Australia, as they receive a promise that their claims for higher wages will be reviewed.

Legislation—South Boston, Va., Town Council votes new **5% utility tax** on electric power usage. Tax is expected to bring in $12,640 annually.

Miscellany—from **Westinghouse Lamp Division** comes word that its color-corrected (fluorescent) mercury lamp soon will be available in 1,000-w size. Lamp is now making its test debut in the vast spaces of an aircraft plant where the economy of a high-output, easily controllable source of white light is obvious . . . At annual safety-in-the-home contest sponsored by Lewis & Conger of New York, **General Electric** wins grand prize for new safety wiring system in its electric blankets. Company's Monwatt Division at Providence, R. I., wins prize for twin night lights, blue and ivory, which spare the prowling householder of both the danger of darkened halls and stairways and sudden glare of full illumination. GE's Bridgeport, Conn., division gets prize for a grill-enclosed, two-speed fan . . . **World's longest single power transmission span,** the 10,656-ft, 170-kv line across Kootenay Lake in British Columbia, was completed April 10 (see page 32).

Rates—Nederland and Woodville, Tex., give **Gulf States Utilities** approval to increase rates about 15.8% which is similar to the boost granted in Beaumont recently . . . **Duke Power** receives North Carolina PUC approval to up rates about $1.9 million annually . . . **Peabody (Mass.) Municipal Electric Light Commission** announces a 20% rate increase effective May 1.

Congratulations—Otter Tail Power promotes **Cyrus G. Wright** from vice president to president, succeeding **Thomas C. Wright** who becomes chairman of board. Company also promotes **Albert V. Hartl** from secretary-treasurer to vice president and treasurer . . . Southwestern G & E elects **Earl J. Dyess** vice president . . . Idaho Power elects **B. C. Russell** vice president . . . Michigan G & E elects **L. L. Perry** vice president and general manager, succeeding S. F. Massie resigned . . . Aluminum Co of America elects **Gordon W. Cameron,** treasurer since 1943, vice president and treasurer; **Arthur P. Hall,** director of public relations and advertising, becomes vice president, and **C. F. Nagel, Jr,** chief metallurgist, becomes vice president.

THE ELECTRICAL WEEK

CONTINUED

More From Washington—NPA's Metals and Minerals Bureau says, "While we are trying desperately to stretch out meager supplies of some materials (such as copper), we are not suggesting that manufacturers turn to substitute materials in post-emergency planning" . . . Bureau of Reclamation has awarded a $29 million contract for construction of the **Palisades Dam** and powerhouse on the Snake River in Idaho.

American Power & Light Co was reported to be preparing a new application for the sale of Washington Water Power Co to three Washington PUD's, according to the Associated Press. Questioned in New York, David W. Jack, secretary-treasurer of AP&L, flatly denied the company was again considering sale of its WWP holdings to public power groups.

More on Rates—Lynn G&E asks Massachusetts Department of Public Utilities approval to increase rates $258,322 annually . . . Illinois Commerce Commission orders Iowa-Illinois G&E to cut rates $520,000 annually . . . Northern States Power gets North Dakota PSC approval to increase rates about 13½% in Fargo-Grand Forks area and about 11½% at Minot, effective May 1.

IN THE INDUSTRY

Western Massachusetts Electric Co at Springfield has a unique training program underway.

Early this year the company hired three young Europeans as maintenance helpers. They are among the first of some 2,000 to come to this country for a work-study program, paving the way for a new experiment in international relations being sponsored by the Mutual Security Administration.

The management of the company kept a close watch on them. It soon began bragging about the way the men mastered their jobs. Other people became interested too.

Work Days, Study Nights . . . In addition to working at their jobs during the day, these three men are attending the American International College in Springfield at night. They are paid by the company for the work they perform. The money received is used to pay their tuition and living expenses. The foreign governments pay transportation to and from the U. S. MSA pays travel and other expenses while the worker-students are in this country.

Five other colleges also are taking part in this program: Bridgeport University at Bridgeport, Conn.; Washington University at St. Louis; Hamline College at St. Paul; University of Syracuse at Syracuse, N. Y.; and Evansville College at Evansville, Ind.

Majority of the participants will come from France, Italy, and Western Germany. They will be selected by the local MSA missions in those countries. All will have at least the equivalent of an American high school education and a small knowledge of English. They will be cleared from a security standpoint by MSA.

Ten Experienced Utility Men . . . The program is off to a relatively slow start. Nearly a third of the 303 men who are here have not found industrial training opportunities. MSA is doing its best to help. All have had experience in some industry in their homeland. Of the 303 now in the U. S., only seven in addition to the three at Western Massachusetts have experience in electric utility work.

There is one drawback. Participants in this program must work near the college to which they are assigned. If utilities in the five college areas are interested in employing the men with utility experience, contact should be made with the Registrar of the closest college to their particular operation.

TECHNICAL NOTES

ARCHER E. KNOWLTON

Manual release should always be provided as an adjunct to an automatic fire protection system and in a location not directly exposed to a possible transformer fire.

Switchboard frequency meters should have range down to 55 cycles to assist system operators in diagnosing the extent of a system disturbance.

Spray from fusible-element fire nozzles should not strike adjacent nozzles and cool their fusible elements. They may want to help extinguish, too.

Sludge is not the only contaminant that can lower the interfacial tension of a transformer oil sample.

Increased sensitivity at lower impulse voltages has been achieved in improving lightning arresters at the same time as raising the 60-cycle cut-off voltage.

Narrow firing range of slag and flyash is an obstacle to success in utilizing these wastes of industry as light-weight aggregate for concrete.

Noise reduction should result from energy absorption at the interfaces of a barrier composed of alternate layers of media with different acoustical impedances.

Imbedded iron from slings or from mere riding in flat cars is enough to start stainless steel pitting when buried in the ground.

Pressure in the water mains for transformer fire protection should be at least 65 psi to assure 50 psi at the nozzles.

Coal is being pumped 8,000 feet through a pipeline in the form of slurry.

Present-day adjustable-speed couplings and damper end valve controls avert the use of the less rugged and more complicated adjustable speed motors for power plant auxiliary service.

Magnetic recorders can be left in continuous operation on power systems, recording and erasing until a relay, actuated by a fault, stops the erasing function. Recording continues.

Congress Takes First Seaway Step

• But the step is a halting one: Senate Foreign Relations Committee reports measure for cooperation with Canada without recommendation. Debate is put off

• President makes another effort to win Congressional support with threat to help all-Canadian navigational project. Ontario Hydro plans to build the power phase

Congress last week took its first halting step toward approval of full United States cooperation in construction of the St. Lawrence Seaway and Power Project.

By a decisive 9 to 4 vote, the Senate Foreign Relations Committee decided to report the Seaway legislation to the Senate without recommendation. Proponents in the committee were able to get a vote with a minimum of debate. A motion to report the measure favorably failed to carry.

The Senate Democratic Policy Committee later decided not to give the measure a priority rating, and it appeared doubtful that it would be called up for debate this session.

President Truman made another last-ditch effort to win Congressional support just a few days before the Senate committee acted. In a letter to the chairmen of the Senate and House committees handling St. Lawrence project legislation, he again threatened to help along an all-Canadian navigation project if Congress failed to act.

Some U. S. Participation Needed . . . This would require some sort of U. S. participation in building the power feature of the project, which would not require Congressional approval (EW, April 21, p 111). In his letter, Truman said :

"I hope that these alternative arrangements will not have to be followed through, because it is so obviously to the advantage of all our people—including the railroad and port interests that have been opposed to the project in the past—for the U. S. to participate fully in the construction and control of the project. That can only be done if the Congress acts."

Hydro Plans to Build . . . In Canada last week, Robert H. Saunders, chairman of the Hydro-Electric Commission of Ontario, told Electrical World the commission had received complete authority from the government to construct the Canadian power facilities of the St. Lawrence project.

"I have been trying to convince the U. S. for one solid year now," he said, "that we're not bluffing on the Seaway. The trouble is that the American people do not understand the Canadian people well enough. They didn't believe us when we said we'd build it ourselves, but we're going ahead.

"It will cost us a lot more to build ourselves, but we'll do it if it's necessary."

Herald Tribune Reverses Stand . . . He said it was good news to hear that the New York Herald Tribune had reversed its stand and had now approved joint construction of the project.

The Chairman admitted that if the U. S. refuses to agree to at least the power phase of the project, Canada will not be able to build the power dam astride the river. But so long as some agency on the American side gets authorization to come in on the job, Ontario Hydro will be able to build, he pointed out.

Asked what agency or organization Hydro would prefer to work with on the project, Saunders said, "That's none of our business. We'll work with anyone who is authorized to do the job, of course—we're friendly with all the parties concerned."

Both the Canadian and American federal governments are in the process of submitting applications to the International Joint Commission for permission to change water levels of the St. Lawrence so that the hydroelectric dam may be constructed in the International Rapids section of the river opposite Massena, N. Y. (EW, April 21, p 111).

First Hurdle . . . The Senate committee action was only the first legislative hurdle in the long Congressional course. On the House side, the legislation was still bottled up by the Public Works Committee which voted 15 to 12 last year not to report the legislation. There have been some changes in the makeup of the committee, but whether the Seaway proponents now have a majority is still in doubt.

Even if the Public Works Committee frees the St. Lawrence bill, it will still have to clear the House Rules Committee before reaching the floor. And on the Senate side, there is always the threat of a filibuster.

Unless Canada's threat to "go it alone" is taken seriously by a large number of law-makers, Canada may yet be faced with the duty of carrying out its decision.

$800,000 Fund . . .

. . . for planning Feather River project is included in State of California's budget

An $800,000 appropriation for preparation of plans for the Feather River water and power project is included in the California 1952-53 fiscal year budget as passed by the legislature and signed by Gov Earl Warren.

The issuance of revenue bonds for state construction of the project was authorized at the 1951 session of the legislature.

A breakdown of the program follows:

A 3.5 million acre-ft capacity dam, 1 million acre-ft less than Shasta, is contemplated at a site on the Feather River above Oroville.

The power house would be a reinforced concrete substructure and superstructure housing five 88,000-kw generators. A power house at the Oroville afterbay dam would have two 12,500-kw generators.

Preliminary plans call for transporting the stored water hundreds of miles to the Mexican border. The legislature has specifically provided, however, that none of the water should be construed as a substitute for California's share from the Colorado River.

Flood Control Controversy Renewed

Truman puts blame for record crests on Congress and the governors of states affected

As Missouri River floods continued to threaten downstream communities, federal agencies divided their energy between providing relief measures and trying to place the blame for the floods.

President Truman blamed Congress for not providing sufficient funds and the governors in the states affected for not backing federal efforts at flood control in the Missouri River Basin.

Some Congressmen blamed the long delay by the executive departments in working out a coordinated flood control plan.

Could Have Been Prevented . . . Lt Gen Lewis A. Pick, chief of the Army Corps of Engineers, said the floods could have been prevented if several large power-flood-control dams had been completed on the upper Missouri. He was referring to the main stem features of the Pick-Sloan plan, of which he is a co-author.

Of the five main dams recommended in this plan, one has been completed at Fort Peck. The others include:

Project	Total Cost (Millions)	Appropriated to Date	Capacity (Thousand Kw)
Garrison Reservoir	$286.8	$148.3	400
Fort Randall	197.3	120.5	320
Oahe	285.5	13.4	425
Gavins Point	60.0	2.6	100

Gavins Point is a re-regulating dam with power features and promises small flood-control benefits. Its main value would be to increase the power capacity of the Fort Randall project.

Collecting Data . . . Although the Congressional appropriations committees have not formally answered President Truman's charges, data are being collected to indicate Congress has appriated money for the Missouri River projects as fast as the President has asked for it.

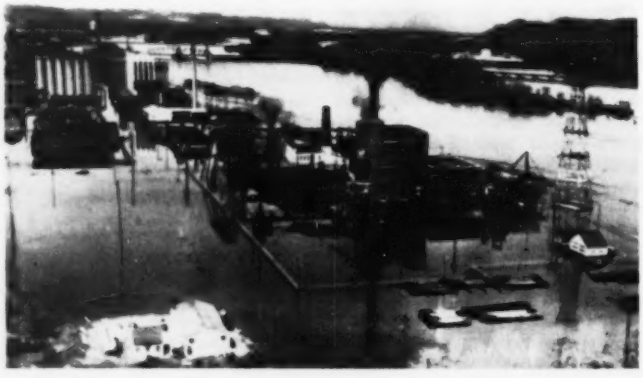
General Pick declined to place the blame on any person or group in government.

While General Pick spotlights the flood control benefits of the main stem projects, at recent hearings the corps stressed the electric power benefits of the multi-purpose dams. At the Garrison reservoir and dam, most expensive of the four uncompleted projects, production of power accounts for 62% of the expected benefits of the project; flood control, only 13%.

Main features of the Pick-Sloan plan were authorized by Congress in the Flood Control Act of 1944 after a long controversy between the Army Corps of Engineers and the Bureau of Reclamation. President Truman evidently is not satified with this plan, preferring some sort of valley authority to do the job. In this connection he

"If dam program had gone through . . .

President Truman believes ravaging waters of the Mississippi and Missouri Rivers, which he surveyed from plane with Sen James E. Murray, would have been checked if Congress had acted.



. . . this wouldn't have happened"

Flood waters from the Mississippi River surround Liberty Street Station of Mississippi Valley Public Service Co at Winona, Minn. Plant remained in operation, but crew had to commute to work by boat. Basement windows were bricked up and plant floor sandbagged.

has created a Missouri River Basin Commission to recommend action toward coordinating water resource development in the area.

C of C Speaks Out . . . The United States Chamber of Commerce asserted last week that a flood control program, financed by state and federal government, should be launched immediately. The industry organization, however, rapped the Administration for delaying flood control work in hope of receiving approval of multipurpose projects and urged the divorce of flood control measures from the development of hydroelectric power.

"The production of electric power is a job for private industry," the chamber said. "The only possible excuse for federal intervention is provided in those river projects where the federal government can generate power economically as a by-product of its other operations. Power development should never be the primary purpose of any federal project, and to defer work on a flood control project because it does not have any hydropower features is to invite calamity."

Relief Measures . . . While government officials sought a scapegoat, they ordered relief measures.

National Production Authority appointed a flood coordinator with instructions to expedite the flow of needed materials to the flood areas. First request was for a temporary 300-kw portable generating unit for the town of Ft. Pierre, S. D. With an assist from Defense Electric Power Administration, NPA was able to locate a rail car unit being used by Northern States Power Co. Northern States immediately offered use of the unit and the rail car was routed to Ft. Pierre the same day.

NPA hoped to keep warehouse supplies in the distressed areas at adequate levels to cope with emergencies. It planned an immediate survey to determine warehouse inventories and future needs of the area.

Atom Conference Slated

Michigan State College is sponsoring a two-day conference May 20-21 as part of an educational program designed to spread information on the facts and future of atomic energy. Detroit Edison Co and the Dow Chemical Co have agreed to cooperate with the program.

Pelton Dam Challenged Again

Oregon Fish and Game Commission files petition in U. S. Circuit Court to have Federal Power Commission license set aside

Portland Gas & Electric Co's Pelton Project came in for more controversy with the filing of a petition to set aside a Federal Power Commission order granting the company a license to construct the large hydro dam on the Deschutes River in Oregon.

The petition was filed April 16 with the U. S. Circuit Court of Appeals in San Francisco.

Petitioners—representing the Fishing Commission of Oregon and the Oregon State Game Commission—say that FPC lacks the jurisdiction to authorize a license to construct a hydroelectric project on a nonnavigable stream in the state of Oregon. The petition also holds that the commission has no jurisdiction to authorize a private utility company to use, divert and impound the waters.

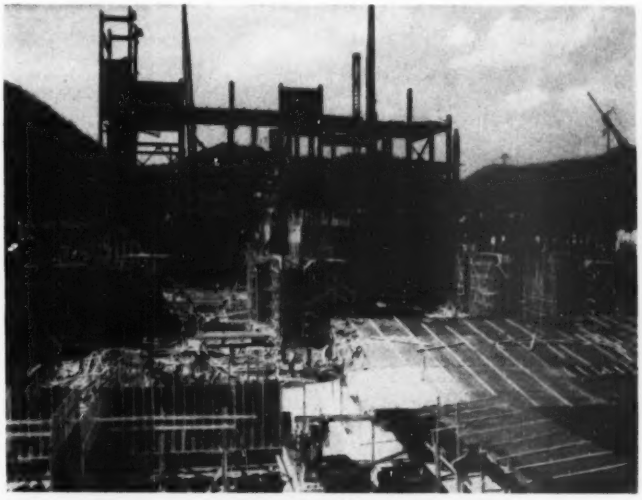
Meanwhile, Portland General Electric has notified the fish commission that it is filing its own plan with the state hydroelectric commission for a fish protection project to be constructed above the proposed dam site.

The company declares, however, that the fish commission's estimates of operation costs of a proposed fish hatchery—about $499,000 annually—are unreasonable.

Fishing interests claim the proposed project will prevent free passage of Deschutes River fish and result in their total destruction, as well as ruining spawning grounds on the Pelton site.

Portland General Electric offered, in a previous application filed with the Oregon Fish Commission, to make provisions to hold fish below the dam and relieve the fish of eggs there, afterwards transporting them by truck to hatcheries for artificial rearing. This the commission rejected. It had already indicated fish ladders would not be practical at the site because of the height of the dam, 250 ft.

The Pelton dam will have three 36,000 kw generators and a 230-kv transmission line. FPC granted the license last December.



Plant Rises on Bank of Kanawha

This is how Appalachian Electric Power Co's 400,000-kw Kanawha River Plant looks today. An artist's sketch of the plant as it will appear when completed was featured on EW's April 7 cover. Two units, each with a capacity of 200,000 kw, are under construction simultaneously. The first is scheduled for service in January, the second in March, next year.

Chapman Trims Funds Request

Interior Secretary, appearing before Senate subcommittee, drops demand for intertie project, transmission lines

Trimming his sails somewhat, Interior Secretary Oscar L. Chapman made his second fund-raising trip to Congress on behalf of his department's fiscal 1953 budget.

In an appearance before the Senate subcommittee on Interior appropriations, Chapman urged restoration of most of the cuts made by the House (EW, April 7, p 97). For bargaining purposes, he dropped two of the more controversial requests:

● The $2 million to initiate construction of the Bonneville-California intertie he said he would put off until another time.

● The $3,613,500 to construct transmission lines in the Roanoke River basin is not needed, he explained, because a contract is almost ready whereby Virginia Electric & Power Co will wheel the power.

But except for these two compromises, Chapman argued that the remainder of his budget requests should be fully restored by the Senate.

Usually the Senate can be counted on for an assist in upping the figures approved by the House, but observers this year are not sure. They notice a growing sentiment in the upper chamber toward economy. But the Senate has not yet acted on a money bill involving the home-state projects, such as those contained in the Interior bill.

Politics Involved . . . Chapman, no mean politician, is banking on the political appeal of his budget. If it does not get him money from Congress it will at least get the Democratic Party votes. He asked the committee to restore money for:

1. The Lagrande-Baker interconnection in the Pacific Northwest.
2. Southwest Power Administration continuing fund increase.
3. Transmission lines in the Savannah River Basin area of South Carolina and Georgia.
4. The Glen Elder multi-purpose dam.
5. Missouri River Basin transmission lines.

75 Tons Going Up

Seventy-five tons of transformer was transferred from a barge to a special trailer for a trip to Consolidated Edison Co's Clifton substation on Staten Island recently. The 23,000-kva transformer is one of two which will be installed for step-up service to the 33-kv ring at the Clifton substation.

POWER BRIEFS

● South Carolina's historic Fort Charlotte will be moved to a new site to save it from the rising waters of the Savannah River, which are being backed up by the Clark Hill power dam. The fort, which was seized by Revolutionary War patriots as an act of defiance against the British, will be re-erected on higher ground near the shore of Clark Hill Lake.

● Arkansas Power & Light Co has applied to the Public Service Commission for permits to expand two of its plants by 270,000 kw. The company also seeks to build 472 miles of transmission lines. Expansion of 135,000 kw is planned at both the Cecil S. Lynch and Harvey Couch Plants. The transmission line program consists of 115-kv and 161-kv construction and conversions—308 miles of 115 kv and 164 miles of 161 kv.

● John P. Coghlan, vice president of Pacific Gas & Electric Co, recently advised Nevada's Gov Charles Russell that all available power from the Central Valley Project is needed in California. Nevada wants PG&E to bring in federal power from Shasta Dam if Reclamation Bureau approves the state's recent application for 150,000 kw.

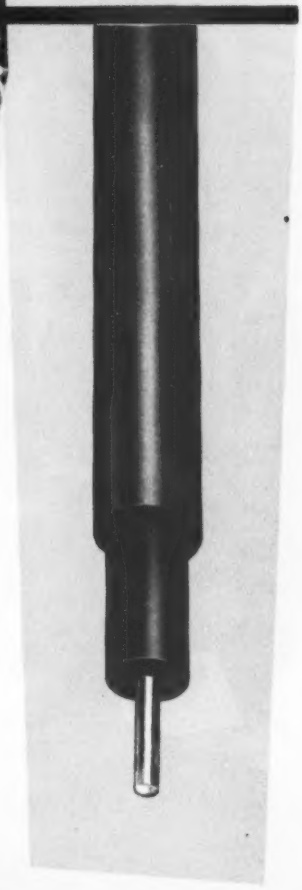
● An electric network analyzer has been completed at the University of Illinois. The analyzer, second largest in the country, will be used by Illinois Power Co, Central Illinois Public Service Co, and Union Electric Co of Missouri. These companies defrayed most of the cost of building the machine.

● Housewives in an 8,000-sq-mile area in Great Britain are being encouraged to do their housework at night when factories don't need power. The incentive is a lower power rate at night.

● Narragansett Electric Co, Providence, R. I., plans to improve the 1951 fuel economy of 1.46 lb per kwhr of its South Street Station. The plant's two units will be modernized. The new installation will produce over 100,000 kw, or half the capacity of the plant, at the low fuel rate of 0.72 lb per kwhr.

One phase of final inspection is the electrical testing, under water, of every foot of Rome RoZone. When the safety gate is lowered, high voltage current is applied to each reel of cable.

8 AWG solid street lighting cable, RoZone insulated with RoPrene (Neoprene) sheath—2001 volts and up.



Rome RoZone®

Superior Ozone-Resistant Insulation Deserves Your CONFIDENCE

What Its Uniformity Means to You...

Q: What is meant by uniformity?

A: Uniformity in service performance . . . foreknowledge of dependability, carrying with it the assurance that every length of RoZone insulated cable measures up to the same high standard of quality.

Q: Of what advantage is such uniformity?

A: Every time you install RoZone, you can be sure of identical performance under comparable service requirements.

Q: How does Rome Cable control uniformity?

A: By carefully supervised workmanship, backed by rigid manufacturing specifications and long experience in the exact compounding of quality insulation.

Q: How do we measure uniformity?

A: Through long-time laboratory and service tests, as well as a specially developed ionization level test which actually predetermines the insulation's behavior in service. Further, sampling tests for ozone resistance, electrical stability in water and aging properties are standard procedures.

In short, RoZone is a premium insulation, precisely compounded, manufactured on modern equipment, time-proven in service and step-by-step tested for high *uniformity of quality. It deserves your fullest confidence.*

It Costs Less to Buy the Best

RoZone is approved and accepted by leading utilities, industrials and consulting engineers

ROME CABLE
Corporation
ROME · NEW YORK
and
TORRANCE · CALIFORNIA

ROME CABLE ROME, N.Y.

Facts from
MONTANA

"'CSP' Transformers cut failures 50 to 1"

"We have been using 'CSP' Transformers for the past ten years," says a Montana Utility. "One of our divisions now has about 1,000 'CSP' Transformers in service, and an equal number of the conventional type.

"Of all our 'CSP' transformers, we have lost but one from lightning. During this 10-year period, we have been losing an average of five conventional transformers per year. That means a ratio of approximately 50 to 1 in favor of the 'CSP'."

Old standards for judging transformers were discarded when the "CSP" (Completely Self-Protecting) Transformer was introduced. The "CSP" transformer, with both lightning and thermal protection built in, has slashed costs, cut maintenance, and improved service continuity. Its reputation has been won by performance in the field, in instances like this one—records that have made it first choice with utilities coast to coast.

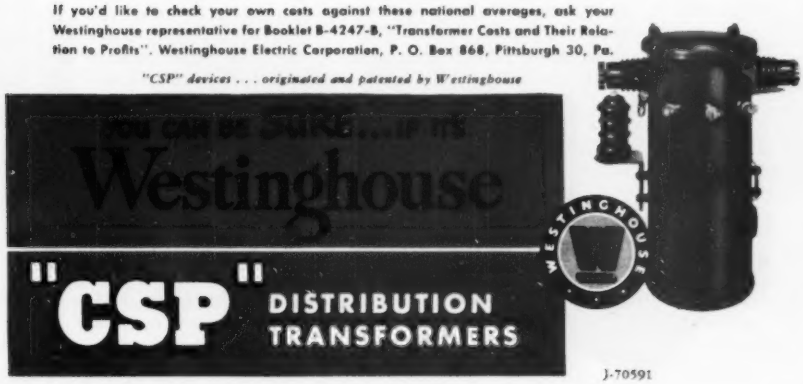
Installation and maintenance costs for Westinghouse "CSP" Transformers are always lower, because complete protective equipment is built in, not separately mounted. A two-year survey of Electric Light and Power Companies shows the following:

NATIONAL AVERAGES

	"CSP"	Conventional
Installation Costs	$13.87	$24.74
Burn-out Rate	0.257%	1.005%
Fuse Outages	None	5.64% @ $6.52 per outage
Load Checks	Automatic	12.8%
Breaker Reset	1.02%	None

If you'd like to check your own costs against these national averages, ask your Westinghouse representative for Booklet B-4247-B, "Transformer Costs and Their Relation to Profits". Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.

"CSP" devices . . . originated and patented by Westinghouse



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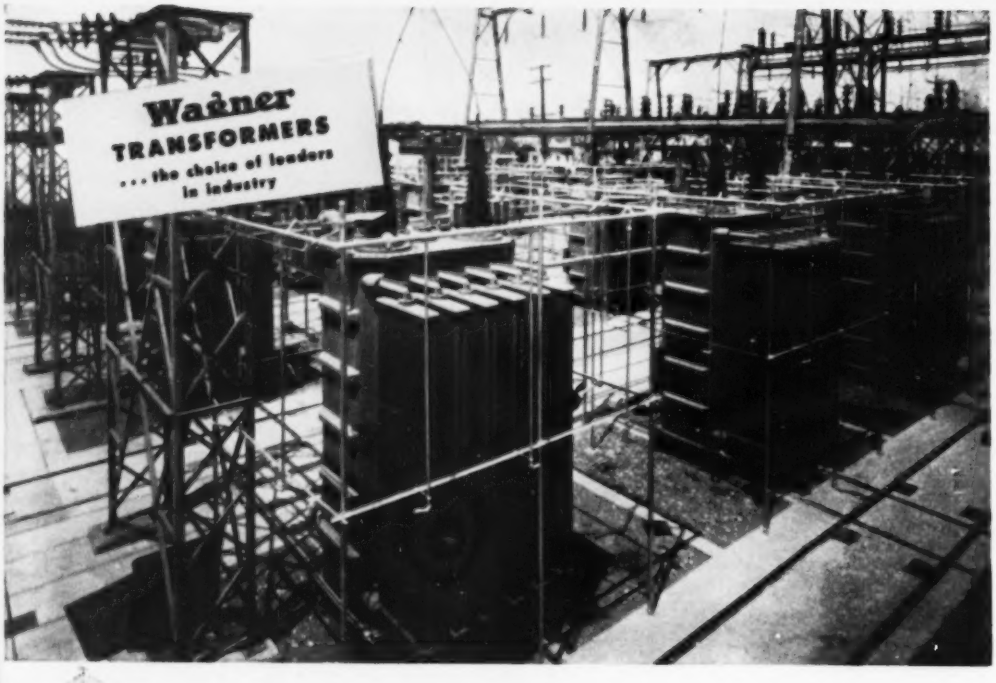


Can *this* be Old New Orleans..?

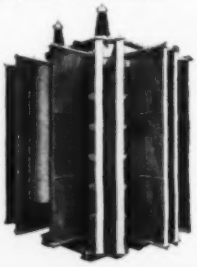
You bet it is! And it's typical of the progress now prevalent in this great port city of the South. Things are booming in New Orleans because of its proximity to vast natural resources, its increasing number of skilled workers, and its unlimited shipping facilities.

The illustration shows the new Midtown Substation of New Orleans Public Service, Incorporated. This power company assures a plentiful supply of low-cost electricity for dynamic *New* Orleans, and its rapidly expanding industrial area.

Wagner Power Transformers are used in this substation where they perform the essential task of assuring a dependable flow of this vital power.

Wagner transformers are an important part of the equipment of many power companies, just as they are a part of the power equipment of many of the industries served by these companies.

Wagner engineers are qualified to specify the correct transformer for *your* requirements. Consult the nearest of our 31 branch offices, or write us.



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AUTOMOTIVE BRAKE SYSTEMS — AIR AND HYDRAULIC

Dr Bush Takes a Look Ahead

Tells Centennial of Engineering in New York engineering situation is more reassuring than it was a year ago

Dr Vannevar Bush used the recent celebration of the Centennial of Engineering in New York as the occasion to take stock of the scientific and engineering situation and look ahead. He found the prospects clouded but more reassuring than a year ago.

"The country is now aroused to its dangers and there is hope that with resourcefulness, patience and determination we can avoid a holocaust," Dr Bush said. "Even though war would disrupt all our plans, it is valuable to plan and hope. To that end we need engineers and scientists who are both courageous and versatile."

Dr Bush was principal speaker at a joint meeting of founder engineering societies in New York City celebrating the Centennial of Engineering. Participating in the meeting were the Metropolitan sections of the American Institute of Chemical Engineers, American Society of Civil Engineers, American Institute of Electrical Engineers, American Society of Mechanical Engineers, and the American Institute of Mining Engineers.

"As a result of the activity in research and development, our national productivity has risen at an extraordinary rate," Dr Bush said. "As production for defense begins to taper off, we shall be faced with the problem of utilizing effectively and keeping in full health the machinery which has been so greatly enlarged to meet the demands of defense. The answer must be found in new products.

"We can hardly expect to use fully the great production machine we are constructing for the purpose of making more of the same old things. The problem will be to produce articles that will be readily absorbed, because they are useful and attractive."

The American public today is more responsive than formerly, Dr Bush pointed out. It has come to expect new wonders as science is applied to an everwidening field and asks a great deal of engineers, he said. It would be a calamity, he commented, if engineers should abdicate this position in society by failing to meet expanding demands and opportunities.

The engineer today must understand science on the one hand and people on the other, Dr Bush said. He must be versatile, understand modern society and know how to work in it effectively. He must have the ability to work well with men, inspire their confidence and secure their respect.

Regarding the threatened lack of engineers in the years ahead, Dr Bush said, "I think we can increase our number if we open up the unusual paths and if we regard the functioning of an engineer in a broader way than is sometimes delineated. We need a profession which can itself change and which can adapt. This is the challenge before the engineering profession.

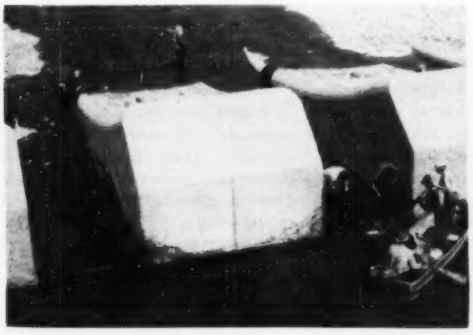
Good Public Relations Stressed Before PEA

Good public relations are very important to the power industry today, P. M. Hess, chairman of the Engineering Section of Pennsylvania Electric Association, told the group's Meter Committee recently at York, Pa.

What business-managed utilities are doing to develop the communities they serve, Hess said, should be told whenever possible.

Use of new core steels in modern, through-type, low-voltage (600-v) insulated current transformers have reduced core size, burdens and cost, according to an analysis by W. E. Osborn and A. D. Ayerst of Duquesne Light Co. Holes for the primary conductor are just large enough for the suitable size of wire.

Telemetering practice of PEA member companies was summarized by C. H. Hinkle of Pennsylvania Water & Power Co. He urged that meter department personnel acquaint themselves more thoroughly with telemetering. L. J. McMackim of Metropolitan Edison Co said that telemetering specialists could well resolve themselves into a telemetering section of meter departments.



Davis Dam Fishermen . . .

Draining Davis Dam spillway basin dry so concrete could be placed in the bottom was one sure way to catch fish. But the problem was: What do you do with them after you've caught 'em? While preparing to work on the Colorado River dam's basin area, Reclamation engineers asked Nevada Fish and Game Commission for answer.

. . . and Their Catch

Commission fishermen seined the fish from the basin. Game fish—trout, bass, bluegill and catfish—were put into "live boxes". Trout were marked with gill tags so their migration and growth could be checked and were set free in the river below the dam. Bass, bluegill and catfish were taken to northern Nevada to restock waters there.

PANEL OF EXPERTS includes the top management of the company: H. C. Fleck, comptroller; O. C. Vieweg, assistant to president; J. M. Bell, Jr, president; A. W. Milliken, vice president; G. C. Brooks, personnel and safety director; W. J. Foster, Jr, vice president; J. F. Farley, assistant comptroller; H. H. Chapman, division manager; W. A. Lyons, vice president; and D. A. Lewis, supt of operations

Supervisors Ask the Questions; Management Answers...

... as New York State Electric & Gas Corp strives to build better supervision through better understanding. Informal forums prompt pertinent queries and frank replies

Better supervision through better understanding is the objective of a series of management-supervisor forums being held by New York State Electric & Gas Corp in each of its operating divisions. Purpose of the forums is to elicit frank questions from the company's supervisory personnel which the management panel answers in an equally straightforward manner. Over 100 supervisors and two union officers, the largest group yet to take part in the forums, attended the latest meeting at Elmira, N. Y., last month.

Forums are conducted in an atmosphere in which supervisors can ask frank and pertinent questions freely without revealing their identity. Supervisors are seated in groups of six. Each group elects a chairman who guides them in selecting and phrasing questions. A secretary is appointed to write the questions on cards provided. The cards are not signed.

After the division manager introduces the panel members to the supervisors, G. C. Brooks, safety and personnel director, explains the forum's purpose and procedure. To suggest questions, highlights of the company's operations, future plans, and employee benefits are given by J. M. Bell, Jr, president; A. W. Milliken, vice president and general manager; and O. C. Vieweg, assistant to president. To close the presentations, W. A. Lyons, vice president, delivers a short discussion of government activities in the field of electric power.

At the afternoon session, questions are answered by the management panel. This group consists of the morning speakers plus members of management representing rates and regulations, accounting and treasury, financing, and general operating departments.

One interesting feature is the use of a tape recorder to take down all questions and answers as they are discussed. Later, questions and answers are transcribed and edited. Those of general interest are published in the employee newspaper.

About 100 questions were put to the panel at Elmira and all were answered. At previous forums, limitation of time prevented all questions from being answered. Replies to unanswered questions were sent to all supervisors who attended the particular forum.

That the technique used by New York State Electric & Gas is successful may be judged by a sampling of questions and answers from the Elmira meeting.

Supervisors wrote their questions in the morning

President Bell

Asst to president Vieweg

Vice president Milliken

Vice president Lyons

Management gave the answers in the afternoon

What is the status of the various Niagara Falls bills in Congress?

(Lyons) All three bills are still in committee and there are strong indications that the Congress will not act upon them this session. However, we have no assurance that this will remain so.

Is the company expanding too rapidly?

(Bell) We are in business to render adequate service to the public; therefore, we can't afford to be short of capacity. Even in a depression it would be infinitely better to be overbuilt rather than short. A power shortage would give the government a chance to come and attempt to relieve the shortage.

What will the company do with the $76 million slated for construction during the next three years?

(Bell) About 90% will be spent for electric plant and the remainder for gas. Of the total, about 45% will be spent for generation, transmission, and substation equipment and about 45% will be spent for distribution facilities.

Will there be a wage increase in 1952?

(Vieweg) The present contract will be up for renewal this summer; there probably will be an increase in 1952.

What about a training program to provide personnel to fill vacancies in managerial positions which will occur normally in the next fifteen years?

(Milliken) A program is being planned which will train supervisors to fill managerial positions as they occur normally and because of unforeseen circumstances.

(Bell) Part of any training program rests with the individual who hopes to advance. It is important that he train and have ready someone who can fill his present job when a new position is offered him.

Do any large electrical equipment manufacturers hold New York State Electric & Gas stock? How are the company's securities divided?

(Bell) Not directly. It is possible that indirectly they hold shares because insurance companies that buy our securities also handle the pension programs of some of the large electrical equipment manufacturers.

For a company to be classified as a high grade utility, it must have its securities divided in this ratio: Bonds, not more than 50%; preferred stocks, not more than 25%; common stock, 25 to 35%. At the end of the year, our company had this ratio of securities: Bonds, 50%; preferred stock, 16%; and common stock, 34%.

ATTENDING AIEE's Southwest District Meeting were (left to right) J. B. Thomas, president, Texas Electric Service Co; Ralph E. Moody, executive vice president, Union Electric Co; F. O. McMillan, president of AIEE, and H. H. Henline, executive secretary of AIEE

Thomas Talks on Utilization

Texas Electric Service Co head tells AIEE meeting engineers must look for ways of getting more out of existing facilities

Engineers should look to ways to get more out of existing facilities instead of looking back at past accomplishments, J. B. Thomas, president, Texas Electric Service Co, told delegates at the Southwest District meeting of American Institute of Electrical Engineers at St. Louis April 15-17.

Even with all the wonderful things that have been accomplished, he said, the best we can do today is to put on the electric lines only about 25% of the energy that is in the fuel burned.

Thomas suggested today's research ought to include: Simpler, cheaper metering equipment; rugged outdoor apparatus with lessened costs; packaged power plants; and more attractive overhead distribution.

America's engineering education program was given a large part of the credit for this country's leadership in industrial production by F. O. McMillan, president of AIEE. Professor McMillan said that European schools were reluctant to teach applied sciences and did not do so until forced by America's leadership in that field.

Transmission . . . Developments are so rapid in the extra high voltage transmission field they could be called precipitous at this time, P. L. Bellaschi, Portland, Ore., reported in a summary of developments in this field. Projects are under way now, he said, in British Columbia and on the Bonneville system in addition to the better-known developments in the East. He recommended that on new high voltage installations of 230 kv and below, serious consideration be given to taps on transformers to permit increasing line voltage to 300 kv and above in the future with minimum expense.

Speed was a major factor in the construction of a 230-kv line from East St. Louis to Joppa, Ill., R. H. Osborne, Sverdrup & Parcel, consulting engineers, declared. Survey work was carried on day and night with shots taken on 60-in. anti-aircraft searchlights at night.

D. D. Clarke of Kansas City Power & Light Co described a lightning stroke that made a direct hit on a ⅜ in. galvanized steel shield wire and was of sufficient magnitude to cause burning and breaking of shield wire.

Generation . . . In the symposium on loss of generator field J. E. Barkle, Westinghouse Electric Corp, A. W. Walton, Oklahoma Gas & Electric Co, D. H. Cameron and E. L. Mueller, Kansas City Power & Light Co, and C. R. Mason, General Electric Co, presented papers. Summaries of reports indicated that there was more trouble of this kind than previously had been indicated. Corrective measures proposed included: Loss-of-field relays that would either sound an alarm or trip the unit off the line, improvement of generator voltage regulators, installation of field breaker interlocks, and training of operators to recognize the difficulty quickly and take corrective measures.

Microwave . . . Union Electric's system will be blanketed by a microwave and VHF radio communications system that will give maximum results at minimum costs, P. T. Ramey and C. W. Blood said in describing the new equipment which is now being installed. Microwave will be provided from St. Louis to the company's plants at Osage, Keokuk, and Rivermines, to company interconnections with Kansas City P&L, and Illinois Power Co and to the Electric Energy, Inc. plant at Joppa, Ill. VHF radio will fill the spaces where microwave connections will not be available.

Ac calculating board studies have been conducted to determine capacitor requirements on the Texas Electric Service system, B. M. Gallaher told the transmission and distribution meeting. A ratio of 0.57 kva of capacitors per kw load is expected. Power factor correction is justified in excess of 92%. It appears now that future primary capacitor installations on the system should be of the switched type reserving the base or unswitched portion for secondary type, 230-v capacitors.

There will be continued expansion of the field of application of capacitors, V. A. Rydbeck, GE declared. Factors will be growing loads, increased use of appliances that have low power factor, greater distances between points of generation and the loads, and the lower relative cost of capacitors compared with costs of other types of system equipment.

A pole-mounted device for subdividing distribution circuits to permit picking up load following an outage was described by A. W. Edwards, Westinghouse. The discussion indicated trouble with load pickup on some systems while others had experienced no trouble.

Sangamo J Meters

are quiet in operation

In the interest of good public relations, utilities must have meters that are quiet. Even when meters are installed outdoors, the point of installation may be on a wall near a bedroom that could act as a sounding board.

For this reason, great pains have been taken to make sure that Sangamo J Meters *are* quiet. The lamination assemblies are riveted with 15 tons pressure so that they do not vibrate according to the alternating current frequency.

To silence any vibration of the moving element, the upper guide bearing has been furnished with a stainless steel pivot of such length that its period of vibration is outside the resonant range of system frequency, and therefore, noiseless. This pivot is anchored in sound deadening alloy to dampen out the noise of vibration and to produce a meter which gives exceptionally quiet operation even under the most adverse conditions.

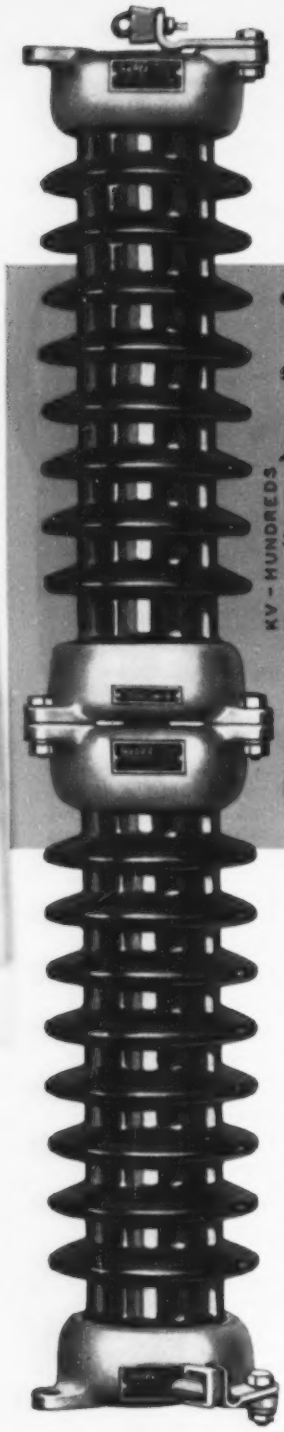
Only Measured Facts are Known Facts

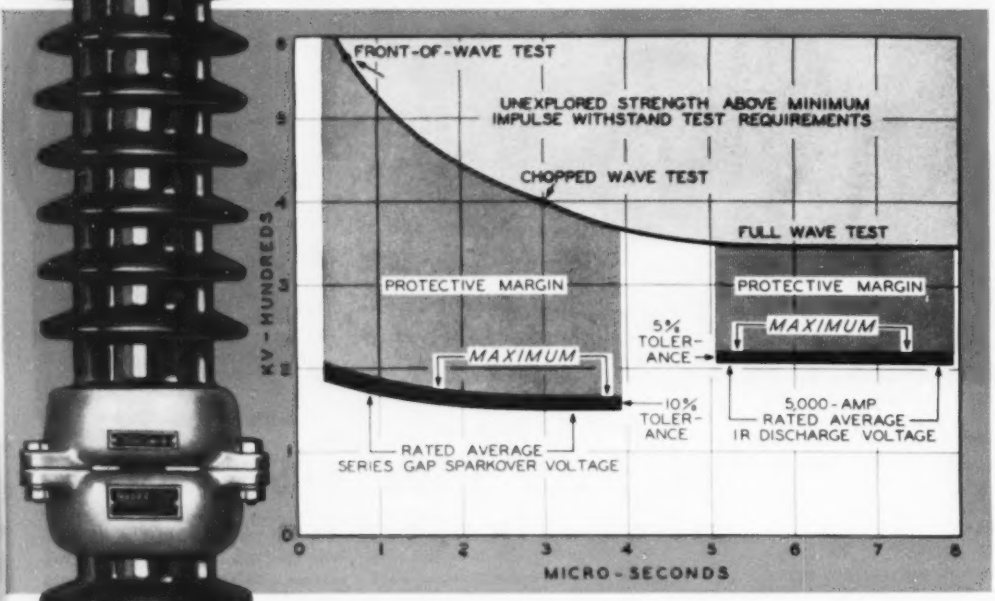
SANGAMO
ELECTRIC COMPANY
SPRINGFIELD, ILLINOIS

SM52-5

Sangamo J Meters have proved their ability to meet today's requirements and tomorrow's anticipated loads with sustained accuracy, economy of maintenance and troublefree performance.

O-B THOREX LIGHTNING ARRESTERS GIVE YOU *Lasting Protection*





Protection afforded a 69-kv transformer on an effectively-grounded neutral system by a GP-60 Thorex lightning arrester.

Lightning arrester value can be measured realistically only in terms of protective margin — the zone between maximum arrester performance ratings and minimum apparatus insulation strength.

With Thorex arresters, tolerances of only +10 per cent sparkover and +5 per cent IR discharge voltage are added to already low rated averages. This produces exceptionally low maximum ratings and correspondingly wide protective margins. The result—when you use Thorex lightning arresters—is the greatest dollar's worth in apparatus safety.

Ohio Brass

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MEETING REPORT

PUAA Slates Missouri Talk

River development will be discussed by R. D. Furber at association's meeting May 8-9 at Minneapolis

In view of the recent Missouri River flood, the problems of the growing Missouri development should come in for some lively discussions when Richard D. Furber, director of public relations, Northern States Power Co of Minnesota, delivers his talk "What Price Power from the Missouri" at the Public Utilities Advertising Association convention. The PUAA parley will be held May 8-9 at the Hotel Radisson, Minneapolis.

Furber also will point out the tremendous cost of the river's developments and their questionable benefits.

Gadsby to Speak . . . Among the other speakers will be George M. Gadsby, president of Utah Power & Light Co and of Edison Electric Institute. Gadsby's topic will be "Advertising—A Symbol of Freedom."

The Advertising Council will be represented when its president, T. S. Repplier, gives a talk "America Is Our Client."

The convention will hear about the "Care and Feeding of Newspapermen" from William P. Steven, assistant executive editor, "Minneapolis Star" and "Minneapolis Tribune."

Reports on the advertising cost survey and Better Copy Contest will be given Friday afternoon, May 9.

A motion picture, "Hidden Treasures," will be shown Thursday afternoon, May 8, by the Moody Institute of Science.

Chairman of the committee on arrangements for the convention program is Thomas H. Kettle, advertising manager, Northern States Power.

NEMA Conference Set

"Mobilizing Lighting Knowledge to Advance America's Welfare" will be the theme of conference sessions planned for NEMA's Fourth International Lighting Exposition and Conference. Formal opening of the exposition-conference, sponsored by the Industrial and Commercial Lighting Equipment Section of the National Electrical Manufacturers Association, will take place at 12:00 noon May 6 at the Public Auditorium in Cleveland, Ohio. The exposition, will continue through May 9.

IES Schedules Meetings

The Illuminating Engineering Society has scheduled two regional conferences. The ninth Canadian National Conference will be held April 30-May 2 at the General Brock Hotel, Niagara Falls, Ont. At this conference mercury vapor lighting in industry will be discussed by E. W. Beggs, Westinghouse Electric Corp. New lamps and new lamp data will be discussed by A. C. Barr, General Electric Co, at the Great Lakes Regional Conference, which is set for May 5-6 at the Hotel Statler, Cleveland, Ohio.

Power Club to Meet

The Interstate Power Club has scheduled a meeting to be held at the Hotel Martinique, New York, May 12. Among the speakers will be Paul V. Hayden, director of public relations, Connecticut Light & Power Co, who will discuss the "Connecticut Valley Story"; Larry Macrow, Carrier Corp, Syracuse, N. Y., "Industrial Air Conditioning"; and Henry E. Voegeli, American Brass Co, Waterbury, Conn., "Industrial and Commercial Applications of the Heating Pump."

NW Group to Hear Hurd

Clinton T. Hurd, chief of the Major Projects Control Branch, Defense Electric Power Administration, will speak about federal regulations on materials and priorities at the annual spring meeting of the Engineering and Operation Section of the Northwest Electric Light & Power Association. The meeting will be held May 7-9 at the Rainbow Hotel, Great Falls, Mont.

CALENDAR

American Public Power Association
Spring Convention, Hotel Olympic, Seattle, April 29-May 1. Joint Meeting with Northwestern Public Power Association, April 28.

American Institute of Electrical Engineers
Northeastern District Meeting, Arlington Hotel, Binghamton, N. Y., April 30-May 2; Summer General Meeting, Hotel Nicollet, Minneapolis, Minn., June 23-27.

Illuminating Engineering Society
Canadian National Conference, Hotel General Brock, Niagara Falls, Ontario, Can., April 30-May 2; Great Lakes Regional Conference, Hotel Statler, Cleveland, Ohio, May 5-6; East Central Regional Conference, Webster Hall Hotel, Pittsburgh, Pa., May 21-23; Northeastern Regional Conference, Hotel Preston, Swampscott, Mass., June 19-20.

Pennsylvania Electric Association
Communications Committee, Americus Hotel, Allentown, Pa., May 1-2; Spring Meeting, Relay Committee, Lawrence Hotel, Erie, Pa., May 8-9; Electrical Equipment Committee, Hotel Roosevelt, Pittsburgh, Pa., May 15-16; Spring Meeting, Systems Operation Committee, Allenberry Lodge, Boiling Springs, Pa., May 22-23; Spring Meeting, Transmission-Distribution Committee, Irem Temple Country Club, Dallas, Pa., May 22-23; Spring Meeting, Prime Movers Committee, Tidewater Inn, Easton, Md., May 28-29.

Electrochemical Society
50th Anniversary Meeting, Benjamin Franklin Hotel, Philadelphia, Pa., May 4-8.

Edison Electric Institute
Electrical Equipment-Prime Movers Committees, Edgewater Beach Hotel, Chicago, May 5-6; Association of Edison Illuminating Companies, Meter-Service Committees, Edgewater Beach Hotel, Chicago, May 5-7; Transmission-Distribution Committee, Edgewater Beach Hotel, Chicago, May 6-7; Hydraulic Power Committee, Edgewater Beach Hotel, Chicago, May 6-7; Purchasing-Stores Committee, Roosevelt Hotel, New Orleans, La., May 11-14; Accident Prevention Committee, Indianapolis Athletic Club, Indianapolis, Ind., May 22-23; 20th Annual Convention, Cleveland Public Auditorium, Cleveland, Ohio, June 2-4.

National Electrical Manufacturers Association
4th International Lighting Exposition-Conference, Industrial-Commercial Lighting Equipment Section, Cleveland Public Auditorium, Cleveland, Ohio, May 6-9.

Northwest Electric Light & Power Association
Engineering-Operation Section, Rainbow Hotel, Great Falls, Mont., May 7-9; Business Development Section, Chinook Hotel, Yakima, Wash., May 12-14; Personnel Section, Vancouver Hotel, Vancouver, B. C., May 19-21; Accounting-Business Practice Section, Medford Hotel, Medford, Ore., May 22-23.

Public Utilities Advertising Association
Annual Convention, Hotel Radisson, Minneapolis, Minn., May 8-9.

Interstate Power Club
Hotel Martinique, New York, May 12.

Nashville Electric Service
1952 Electric Show, Electric Center Bldg., Nashville, Tenn., May 12-17; cosponsored by Nashville Electrical Dealers Association.

New Jersey Utilities Association
Spring Conference, Seaview Country Club, Absecon, N. J., May 16.

COOKS take over lobby of Cincinnati Gas & Electric Co as they compete in Heirloom Recipe contest designed to promote gas range sales

Cincinnati G&E Promotes Products and

Ohio utility's lobby shows employ dramatic techniques to win the interest of its customers and make them friends of the company

ED HODGETTS, man behind lobby shows, celebrated television jubilee with Dagmar

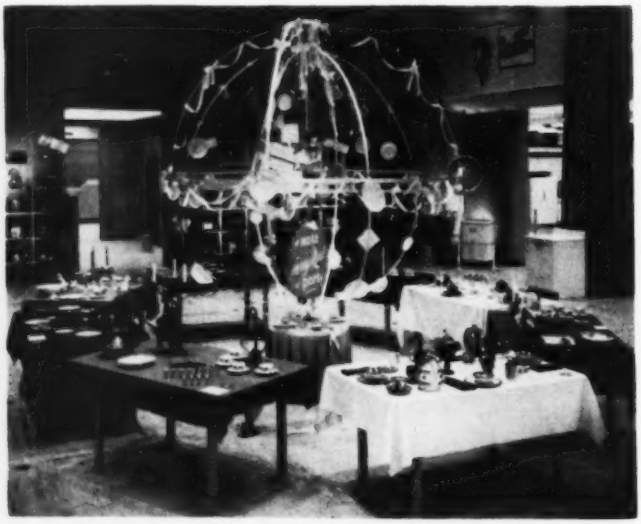


TABLE SETTING contest is annual affair at Cincinnati G&E. Electric dishwashers are displayed with tables to emphasize how drudgery can be eliminated "after the meal is over"

STUDENTS are interested listeners as Cincinnati G&E guide explains exhibits on atomic energy which were assembled in company's lobby

Ideas with 'Showmotion'

by **EDWARD W. HODGETTS**
Cincinnati Gas & Electric Co

Refusing to be bound by past ways of doing things, Cincinnati Gas & Electric Co has sparked its selling of merchandise and ideas by combining showmanship with promotion. The company calls it "showmotion."

"Showmotion" is a show, exhibition, and promotion all at the same time. Its purpose is to encourage the utility's customers to visit its offices and stores even though no business purpose is anticipated. Cincinnati G&E wants to make the public familiar with the company and in that way breed friendliness.

Utility customers are not transient but remain with the company for many years. For this reason Cincinnati G&E believes that new approaches to promotion must be developed constantly.

Something for Nothing . . . During the past seven years the Ohio utility has successfully used "showmotions" to capture the interest of its customers. Ten to 12 new lobby shows are created each year. The dramatic presentations make use of sound, motion, and color to arouse curiosity. Frequent contests play on people's love of getting something for nothing. Prizes, quite naturally, are appliances.

The lobby shows also appeal to the public's desire for comfort, ease, warmth, and freedom from responsibility. Since electricity makes these things possible, Cincinnati G&E exploits this angle in its displays.

The spectacular exhibits are staged in the lobby and windows of Cincinnati G&E's downtown office. Most of them are devoted to the promotion of appliances. Here are a few examples:

A "Weatherwise Contest" was devoted to an exhibit from the U. S. Weather Bureau and co-sponsored by the utility, Cincinnati Electrical Association, and "Cincinnati Enquirer." The contest was based on the most nearly accurate forecast of weather on the day of the opening baseball game and was part of a promotion to sell electric and gas clothes dryers, washers, and ironers.

Dishwasher Promotion . . . The company's annual table setting contest, in which Cincinnati G&E was joined by "Cincinnati Times-Star" as sponsor, featured dishwashers. The aim was to get across the idea that a happy meal should not be followed by dishwashing drudgery but by the speed and ease of electric dishwashing. In addition, the women's clubs participating in the contest were encouraged to include electric houseware items as part of their table displays.

"Fan Fair" . . . A "Fan Fair" exhibited all kinds of fans and air conditioning. A famous collection of historical fans was shown to prove how efficient modern air moving equipment is.

Other Cincinnati G&E "showmotions" tie in with national events. National Home Week suggested a light conditioning promotion. Printing Week enabled the utility to honor the printing industry and show the part gas and electricity play in the operation of such an important industry. Fire Prevention Week offered a chance to tell the story of adequate wiring.

No one person makes the decision on what shall be promoted and

MORE POWER TO FARMER was theme of lobby show held last summer. Display included metal barn, milkhouse, electric tools, equipment

when at the Cincinnati lobby shows. Committees representing the utility, the electrical association, and the newspapers confer. The themes are generally developed by the utility and presented for approval to the trade association or newspaper if they are involved.

Dealer promotions are held concurrently with Cincinnati G&E's "showmotions." Five hundred dealers get on the bandwagon with a similar promotion of their own. If a utility merchandises, Cincinnati G&E feels there is an even greater reason for "showmotions." The utility's sales personnel are made more enthusiastic, and the enthusiasm spreads to dealers' sales staffs and eventually to the public.

Costs Vary . . . The cost of putting on lobby shows varies with the individual show. Sometimes the utility spends $500 or $600 on a show. Other shows cost as much as $2,000, but this is the unusual case. It has been Cincinnati G&E's experience that shows in which a jobber or manufacturer participate are better and more successful and less costly. The few dollars that any participant pays out is but a fraction of the cost he would expend should he undertake a similar program of his own.

Publicity is an important element in putting over "showmotions." This can come either from advertisements or editorial comment. Contests are used effectively by Cincinnati G&E to get newspaper publicity as well as to persuade people to see the show.

Cincinnati G&E's program is comparatively new. It represents a break with "slow motion" methods of promotion. The switch from "slow motion" to "showmotion" has been made possible by an encouraging and enthusiastic management.

Referring to a recent editorial in Electrical World which urged utilities to "put sparkle in promotion," Cincinnati G&E suggests putting the same thought the electrical way, "Put Sparks in Promotion—It's Our Business."

LIGHT-CONDITIONED home was popular Cincinnati G&E exhibit. Pre-fab house erected in lobby aimed at promoting good lighting

PRINTING TRADE was honored in recent lobby show. A complete print shop was set up and operated by high school students and printers

UTILITY DATA SHOWS OUTSTANDING 99.94% PERFORMANCE RECORD FOR L-M VALVE TYPE LIGHTNING ARRESTERS

Six-year performance records of a large midwestern utility show that L-M valve type lightning arresters have an exceptionally good operating record. With a total of 41,175 service years, only 23 L-M arresters had Isolator® operations while in service—there was only one instance of radio interference from L-M arresters—and of 613 arresters brought into the shop for electrical testing, not one was found faulty.

Here are the records for the years 1945 through 1950.

Year	Arresters in Service	Isolator Operations in Service	Number Tested	Failed in Test
1945	3,286	5	0	0
1946	4,322	2	11	0
1947	6,020	2	137	0
1948	7,469	4	118	0
1949	8,686	3	186	0
1950	11,392	7	161	0
Total Arrester Service Years	41,175	23	613	0

23 ÷ 41,175 = .056% failure rate

This substantiates the claims that L-M engineers have always been able to make—that L-M arresters give remarkable protection, excellent performance, and long life with unchanging characteristics.

Testing Greatly Simplified. The Pyrex® glass housing of L-M valve type arresters allows you to "test by sight." You don't have to make an electrical test of every single arrester. Just look at the spark gap—any irregularities can be detected by sight. If the Isolator® is intact you know the valve element is okay. That's all there is to it—if you use L-M Pyrex-housed valve type lightning arresters.

Get Complete Details. For complete information on L-M Lightning Arresters, and details of visual test methods, ask the L-M Field Engineer, or write Line Material Co., Milwaukee 1, Wis. (a McGraw Electric Company Division).

LINE MATERIAL

Lightning Arresters

Complete Coordinated Equipment for Distribution Today

"L-M's "ISOLATOR," watchdog of arrester trouble, gives positive assurance against grounding feeders through damaged arresters, by disconnecting the ground lead from the arrester. (As shown in the operating company records above, in 41,175 arrester-years there were 23 Isolator operations, which provided this disconnecting service.)

80

LET'S LOOK AT THE FACTS

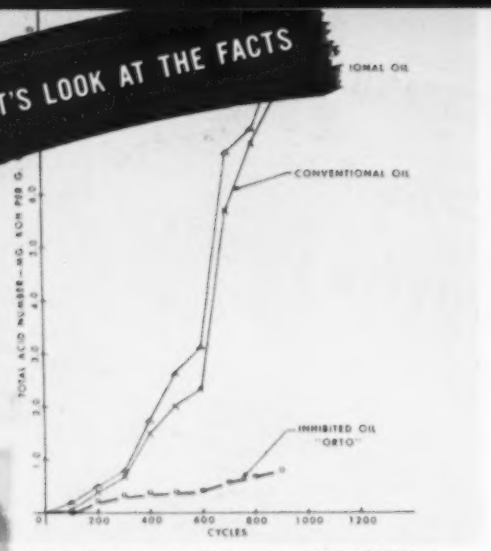


FIGURE 1—Comparison of acids formed by inhibited (ORTO) oil and conventional transformer oils in laboratory tests. Reduction of acid formation increases the life of the oil two to three times, and prolongs the life of the cellulose insulation.

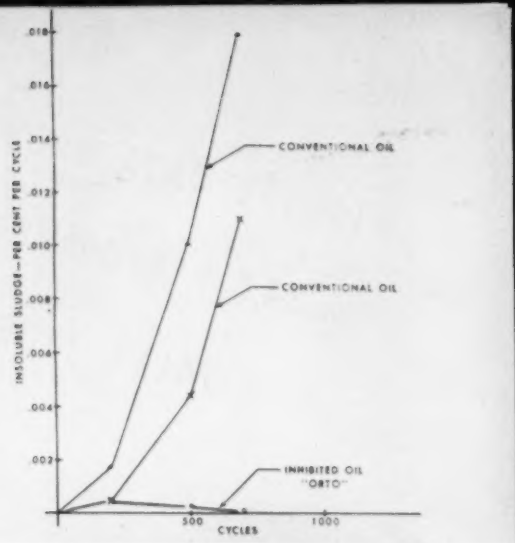


FIGURE 2—Comparison of sludge formation in conventional and inhibited (ORTO) oils in laboratory tests. The prevention of sludge formation appreciably lengthens life of the oil and the transformer, and maintains high overload capacity.

L-M's ORTO® Lengthens Transformer Life and Increases Overload Capacity

by **MARTIN I. ZWELLING,**
Chief Laboratory Engineer,
Transformer Division, Line Material Co.

The life of a transformer is largely determined by the life of the cellulose insulation. This, in turn, is dependent upon temperature of operation, formation of acids, and the length of time these two reactants are in effect.

Obviously the prevention of acid by an inhibitor eliminates one reactant (Figure 1). The prevention of sludge (Figure 2) modifies the other—temperature—by permitting free oil circulation, and thus keeps cellulose deterioration at a low rate. Surge strength and short-circuit strength are maintained at high levels throughout the transformer's life span.

Maintains Overload Capacity

Generally speaking, inhibited oil will improve overload capacity by maintaining the original capacity of the transformer over a greater proportion of its life. Actually, in high magnitude, short duration overloads, the temperature of the oil does not increase to any great degree, and heat affects only the cellulose insulation. But if the prevention of acid formation has protected the cellulose insulation from deterioration, the transformer is better able to handle a high short-time overload without damage.

In the case of long time, low magnitude overloads, the use of an inhibited oil such as ORTO has an even more marked effect. In conventional oils, overload capacity will be decreased as oxidation builds up increasing amounts of acid and blanketing layers of sludge (Figure 3). By preventing the formation of acids and sludge, the transformer maintains its initial high overload capacity for a greater proportion of its life (Figure 4).

Lengthens Transformer Life

If an operator obtains a certain life expectancy from a transformer under certain operating conditions, life will be increased with an inhibited oil under these same operating conditions. Or, with the same operating conditions and the *same life expectancy*, a certain increase in the overload is possible with ORTO.

Long term tests (Figure 5) and short

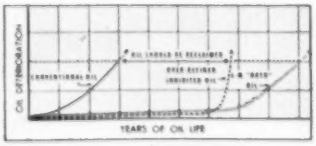


FIGURE 8—Comparative curves show the deterioration in service of a conventional oil, an inhibited over-refined oil, and ORTO brand oil, in which deterioration, when it finally starts, follows the same gradual curve as any high grade conventional oil.

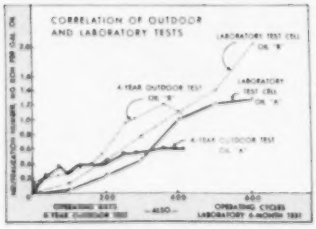

CORRELATION OF OUTDOOR AND LABORATORY TESTS
LABORATORY TEST CELL OIL "B"
4-YEAR OUTDOOR TEST OIL "B"
LABORATORY TEST CELL OIL "A"
4-YEAR OUTDOOR TEST OIL "A"
OPERATING CYCLES 4-YEAR OUTDOOR TEST
—ALSO—
OPERATING CYCLES LABORATORY 6-MONTH TEST

FIGURE 7—Typical curves showing the close correlation between the 4-year outdoor tests and the laboratory tests on two oils. This close correlation prevailed throughout on the various oils tested and in the wide variety of tests made.

term accelerated tests (Figure 6) have been made which show a marked degree of correlation (Figure 7). These tests indicate that the inhibitor in ORTO greatly prolongs oil life before acid and sludge deterioration commences, and that after this deterioration starts, ORTO follows the same gradual curve of any high grade conventional oil (Figure 8). The inhibitor has no harmful effects, it does not react with any other known inhibitor, and it may be blended with other oils, new or reclaimed, inhibited or non-inhibited. Naturally when ORTO is blended with another oil a certain amount of dilution occurs which reduces the effective life-extension properties of the inhibitor to the extent that ORTO is diluted. The overall effect of ORTO can be safely judged from the diagram.

FIGURE 3—Laboratory test coil after the equivalent of about 18 years service using a good grade of conventional oil. Notice the heavy sludge deposits, which have clogged oil passages, causing higher temperatures, deterioration of insulation, and lower overload capacity.

FIGURE 4—Here is an identical coil, after operating for the same period of time under the same conditions except that the oil was ORTO. Acid and sludge formation has been prevented; oil passages are clear; initial overload capacity and impulse strength have been maintained.

FIGURE 5—Outdoor tests started some years ago were used as a basis for developing accelerated laboratory tests. These outdoor tests were closely checked against other long time tests run by oil companies and utility companies, and were correlated with laboratory procedure.

FIGURE 6—Laboratory equipment in which conventional and inhibited oils were tested under closely controlled conditions. The laboratory test permitted precise recording of acid and sludge formation and of deterioration of insulation, wire, and other parts of the transformer.

Look at the facts! Get details on L-M Round-Wound Transformers

L-M Round-Wound transformers consist of a wound core, with round coils wound directly onto the core, which therefore is not cut or unwound, and air gaps are not introduced.

Because of the design and the long, round coils, the transformers offer better regulation, high short time overload capacity, high impulse level and high short circuit strength, low exciting current, and better loss ratios. And they are filled with ORTO, L-M's outstanding Oxidation Resistant Transformer Oil!

Get the facts from the L-M Field Engineer, or write Mr. Zwelling at the Transformer Division, Line Material Company, Zanesville, Ohio (a McGraw Electric Company Division).

LINE MATERIAL
Transformers

LM ORTO

Complete Coordinated Equipment for Distribution Today

NEWS ABOUT PEOPLE

H. S. HOLCOMB

R. E. SECORD

NEES Elects 4 Vice Presidents

The new appointees are Holcomb, Secord, Ziegler, and O'Neill. Leach, Kennedy, and Van Rye are elevated

Four new vice presidents have been appointed within the New England Electric System.

H. Sherman Holcomb has been elected vice president of Salem (Mass.) Electric Lighting Co, Gloucester (Mass.) Electric Co, and electrical operations of Beverly (Mass.) Gas & Electric Co.

Ralph E. Secord has been named vice president of Worcester (Mass.) County Electric Co, succeeding Edward G. Twohey, who heads the system's gas companies division.

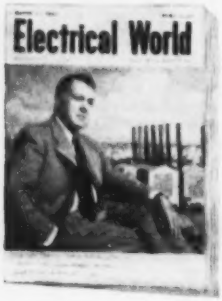
Service Company VPs . . . Edward F. Ziegler and Walter P. O'Neill have been elected vice presidents of the New England Power Service Co. Ziegler will be in charge of labor relations and O'Neill co-ordinating engineer. Albert Calvert is now rate engineer, succeeding Jesse E. Gray who has retired after serving for 48 years.

Edmond F. Leach and George E. Kennedy are now assistant vice presidents of Worcester County. Orrie Van Rye, personnel counsel for New England PS, has been appointed assistant to the president of Worcester County. Richard J. Lyman, who has been a NEES executive assistant since 1950, succeeds Van Rye in the personnel post. Robert E. Gray is Worcester County's merchandising manager succeeding Wilder Moore, who is now sales manager of the system's gas division.

Holcomb, who entered the utility field in 1926, has been serving as an assistant district manager and vice president of system utilities north of Worcester since 1944.

Secord, who started his utility career in 1928, has been serving in the post of vice president for the Narragansett Electric Co, Providence, R. I., since 1947.

Leonard Elected SEE President



(Cover Story)

Harold C. Leonard, who last week was elected president of the Southeastern Electric Exchange, is a veteran utility executive. For the past 15 years he has been a director and vice president in charge of Louisiana operations of Gulf States Utilities Co. During this period the company has enjoyed spectacular growth.

Though Leonard is a New Englander, he has spent most of his life in the Southeast. A native of Worcester, Mass., he received his bachelor's degree in electrical engineering from Worcester Polytechnic Institute. He added to this a master's degree from Union College. After a short period with Stone & Webster at Boston, he joined the Virginia Electric & Power Co.

After filling a number of positions in the engineering department he was made electrical engineer in charge of design. In 1927 he became manager of the company's electric department at Norfolk, advancing later to the position of system electrical engineer. In 1930 he went to Texas as general superintendent of El Paso Electric Co.

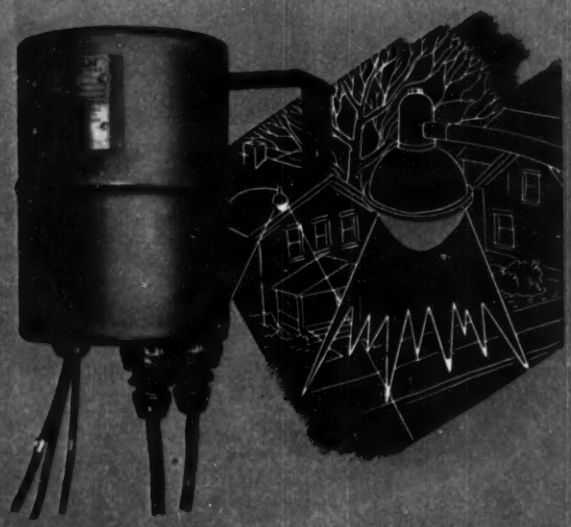
Leonard joined Gulf States Utilities in 1935 as vice president and general manager in charge of the Louisiana division with headquarters at Lake Charles. Shortly after he became president of the Baton Rouge Electric Co, serving until 1938 when that company was merged with Gulf States. Leonard then took over the positions he now holds.

The Baton Rouge utility executive has taken a great interest in civic affairs. The Louisiana Engineering Society has conferred on him the Lockett Medal for civic leadership. This is not an annual award, but an honor accorded only where the nominee has completed a truly imposing list of achievements. Leonard was the third man to be so honored.

He has been active in SEE for many years and has served on numerous committees. During the past year he was first vice president.

TRANSFORMER OPERATOR'S QUIZ:

How do KUHLMAN street lighting transformers virtually eliminate maintenance costs?

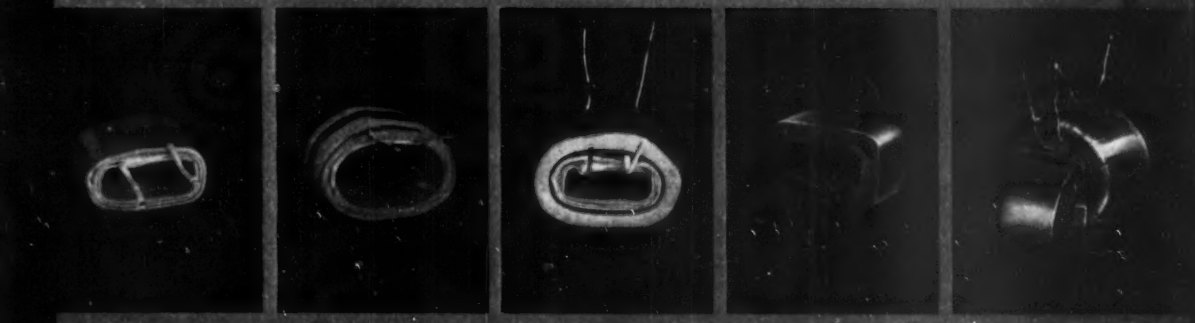


Kuhlman Street Lighting Transformers require practically no maintenance because they are compound-filled and equipped with a drawn copper bearing corrosion resistant steel case. You can install them and forget them.

Important, too, is the fact that the Kuhlman Street Lighting Transformer line provides a unit for every need—vault, manhole, lamp base or aerial mounting. These transformers have a guaranteed current regulation of 1% with lamps having a wattage variation of from 20% below normal to 10% above normal. Thus, they insure longer life for your lamps.

Kuhlman comes by its street lighting transformer know-how naturally. Many years ago, Kuhlman engineers developed the forerunner of the present day street lighting unit. This development takes its place beside other famous Kuhlman "firsts" such as the Bent Iron Core, "Quick-Grip" bushing, and silicone insulation.

The Famous Bent Iron Core



The Kuhlman Street Lighting Transformer core and coil in various stages of construction. At right is the Kuhlman pioneering Bent Iron Core, which utilizes oriented steel and lapped joint construction, providing great savings in weight and exciting current reduction.

Kuhlman ELECTRIC COMPANY, BAY CITY, MICHIGAN

A great name in transformers. Write for descriptive bulletins on Kuhlman power, distribution, dry type, Sol-T-Kuhl and specialty units.

EXPORT REPRESENTATIVES: *International Standard Electric Corporation*, 67 Broad Street, New York 4, N. Y. Cable Address, Microphone, N. Y.

C. M. HAGAN

Charles Hagan Promoted by Atlantic City Electric

Charles M. Hagan has been promoted to the executive vice presidency of Atlantic City (N. J.) Electric Company.

Three other men have been elected to the post of vice president. They are: Carl O. Carlson, vice president of electric operations; John B. Taylor, vice president, commercial; and Waldo E. Caven, vice president, chief engineer.

Hagan, who was elected vice president in 1949, started with the company in 1928 as power sales engineer. He has served in several capacities including division manager in Salem and assistant general manager.

With the utility since 1926, Carlson has worked as distribution engineer and superintendent of transmission and distribution. Taylor joined the company in 1946 after a long period of service with Appalachian Electric Power Co, a former affiliate of Atlantic City Electric. He has been serving as assistant vice president. Caven, who started with Atlantic City in 1932, was made system operator in 1940.

Hal Slocomb, Jr, an advertising and sales promotion consultant for Ebasco Services, Inc, New York, for the past two years, has been named advertising co-ordinator. He will be in charge of Ebasco's advertising and publicity.

Adm Edward L. Cochrane has been appointed dean of the school of engineering of Massachusetts Institute of Technology. Cochrane, who has headed the M.I.T. department of naval architecture and marine engineering since 1947, is expected to assume his new post this summer. He succeeds **Dr T. K. Sherwood,** who has been a member of the faculty since 1930.

A. J. Ward has been made assistant sales manager of the S&C Electric Co, Chicago. Ward came from Sargent & Lundy where he was an electrical engineer for the past five years.

Alan Howard has been made manager of the engineering department in General Electric Co's Turbine Division. In another division appointment, **John P. Keller** was named general manager of the gas turbine department. Howard began with GE in 1927 and has been serving as general manager of the gas turbine department since 1951. Keller, who joined GE in 1929, was made assistant general manager of that department in 1951.

W. F. MAINGUY

Shawinigan W&P Elevates W. F. Mainguy, 2 Others

W. F. Mainguy, vice president of distribution for Shawinigan Water & Power Co, Montreal, Que., since 1947, has been elected executive vice president.

A. C. Abbott, manager of the commercial and distribution department for the past two years, succeeds Mainguy. Jules Bouchard, assistant manager of the commercial and distribution department, replaces Abbott.

Mainguy joined Power Engineering Co in 1928, which was later merged with Shawinigan Engineering Co, Ltd. Transferred to Shawinigan W&P in 1932, he was with the commercial and distribution department, first as power sales engineer and then as power sales manager. He became personnel manager in 1943 and a vice president four years later.

A. C. ABBOTT

Abbott, who started with the Shawinigan organization in 1926, was appointed assistant manager of the commercial and distribution department in 1947 and was named its manager in 1950.

Bouchard entered the Shawinigan system in 1927 and has been serving in the present post since 1950.

OBITUARY

R. B. MacDonald, 70, formerly president of Peoples Power Co for many years before his retirement in 1941, died April 4 at Rock Island, Ill. The company has since changed its name to Iowa-Illinois Gas & Electric Co.

Edward Haire, 41, electrical engineer with City Light at Tacoma, Wash., died March 30. He joined the department as an assistant operator in 1937.

C. Denton Slaughter, 67, an electrical engineer and assistant general sales manager of Anaconda Wire & Cable Co, died April 15 at New York, N. Y. He had been associated with the company for more than 33 years, 25 of which were spent with the New York office.

When you compare the ease and simplicity of installation and the great holding power of Kearney P-L Anchors with other more costly and more complicated anchors, you will know why Kearney P-L's are gaining such enthusiastic industry-wide acceptance.

KEARNEY P-L ALL-STEEL EXPANDING-TYPE EARTH ANCHORS GIVE YOU THE BEST ANSWER TO ANY GUYING PROBLEM

They're Easy to Install—Have Great Holding Power

A few blows of the spreading tool and the blades are fully expanded. The opening force is exerted directly onto the blades. There are no arms, joints, pinned hinges or extra parts to jam, shear or break.

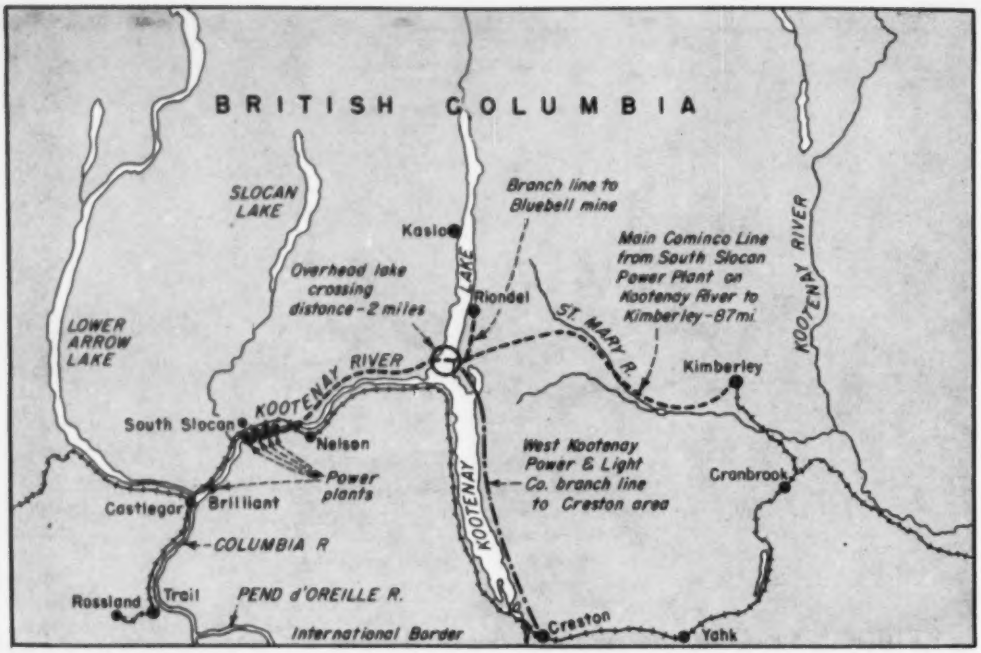
P-L Anchors do a better job and can be installed easily in all types of soil. They show additional merit in soil where rocks or other obstructions cause difficulties with other types of anchors.

Available in 2-blade, 4-blade and 4-blade heavy duty. Write for complete specifications including prices.

JAMES R. KEARNEY CORPORATION — JAMES R. KEARNEY CORPORATION ST. LOUIS, MO. — 4224-42 Clayton Ave., St. Louis 10, Mo.

Canadian Plant: Guelph, Ontario

KEARNEY Gives a Little More for a Little Less through Engineering



ROUTE of 87 mile transmission project of which the world's largest power span is a 2-mile section. The span is approximately 50 miles north of intersection of the borders of Washington, Idaho, and British Columbia. Line will improve the power supply for mining operations

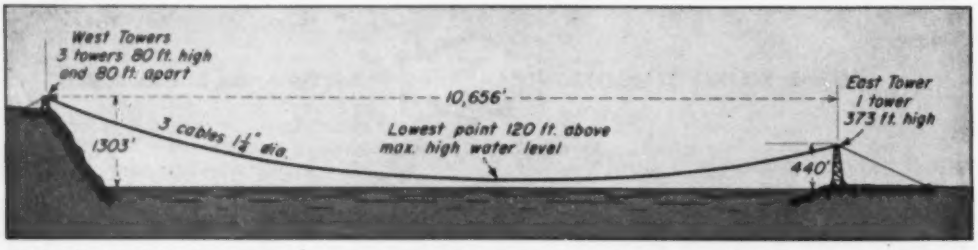
Kootenay Line Span Is 2 Miles Long

British Columbia utility is erecting world's longest single power transmission span as part of 87-mile, 170-kv line to serve mining project and local area

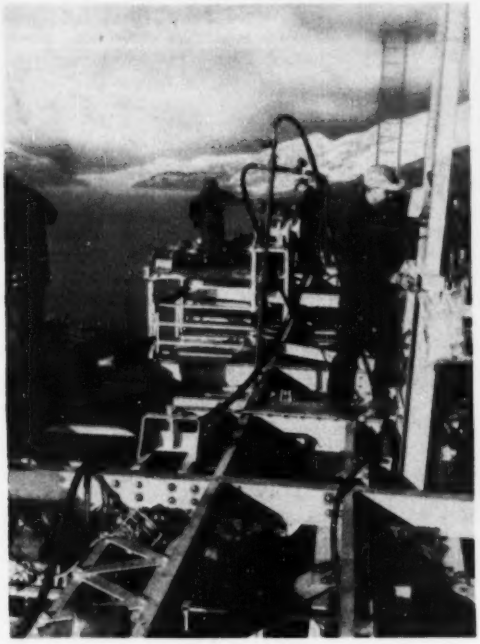
The longest single power transmission span in the world is now under construction in the interior of British Columbia. It will be approximately 2 miles long, some 3,000 ft longer than the present record holder, a Swiss span.

The Canadian span is being erected by Kootenay Power & Light Co, a subsidiary of the Consolidated Mining & Smelting Co. The span, which will cross the middle of long, narrow Lake Kootenay in the southeastern part of the province (see map), is part of an eventual 170-kv, 75,000-kva transmission line. It will run 87 miles from the utility's South Slocan Plants on the Kootenay River near Nelson to the parent company's mine and concentrator at Kimberley. Branch lines will supply domestic and industrial users in a large area south of the lake.

The total cost of the transmission project has been estimated at $3 mil-



PROFILE DRAWING shows how span will hang across Kootenay Lake in British Columbia. Though the figures are correct, the left bank is not quite so steep. Because of this it will be possible to drag the cables up on the bank and thus ease anchoring to the towers



RIVETING CREW of Dominion Bridge Co is at work at the top of the 373-ft high east tower. A platform permitted men to work in safety

FROM A DISTANCE platform on which men at left were working may be more easily seen. The tower will be painted international orange.

lion. It is to be completed by the end of this year. The span was to have been completed this month.

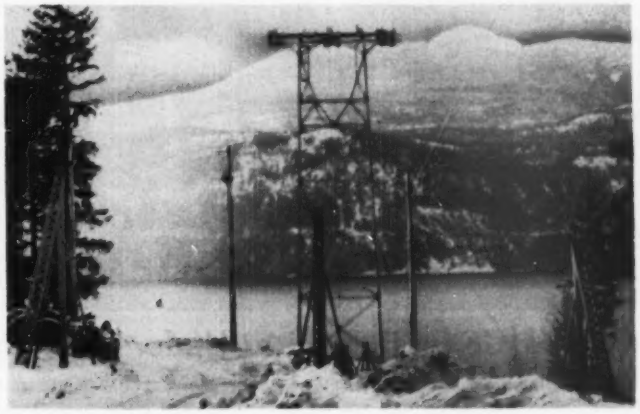
With an actual length of 10,656 ft the record span will consist of three cables. Each will be made up of 91 galvanized steel wires in concentric layers with each layer turned in the opposite direction to the other. Each cable will be in one piece, 1¼ in. in diameter, and will weigh 17.6 tons.

The span will cross the lake from a bluff on the west side near Coffee Creek to a point adjacent to Kootenay Bay on the east side. On the west side there will be three towers about 80 ft high and 80 ft apart. The bluff on which they are being erected is 1223 ft above the lake.

The single Kootenay Bay tower will be 373 ft high. It will have a 70-ft crossarm at the top. This will provide a 35-ft separation between the cables. The tower will be braced by three backstays set in a 600-ton concrete anchor.

Getting the cables across the lake is expected to be a difficult operation. Present plans call for the use of 1,200-lb steel pontoons to float the cable across the lake. There would be one pontoon every 1,500 ft to support the cable until it could be raised to its permanent place. The cable will first be attached to the high east tower. Then the more difficult task of raising the cable's entire weight to the lower west towers will be carried out.

An interesting feature of the surveying of the original route of the span was the fact that light diffraction due to heat waves made daylight surveying impossible. A fairly complex night setup was necessary. When the first night survey was attempted, a heavy thunderstorm made work impossible. The second attempt was successful, and survey figures have checked extremely well.



EAST TOWER, taken from shore, reveals the three backstays which are set in a 600-ton concrete anchor. The total weight of the three cables supported by the tower will be 52.8 tons

Kidde Sets Up Nuclear Labs

First privately financed laboratories for research in nuclear power have been established by Walter Kidde & Co. Inc, engineers and manufacturers of fire protection systems, Pres John F. Kidde announced recently in New York.

Primary aim of the new Walter Kidde Laboratories, Inc, will be development of commercial atomic power. However, service of the laboratories will be available to other organizations interested in the design of nuclear power plants or in the application of nuclear technology to their products and processes.

Dr Karl Cohen, pioneer in early scientific work leading to the wartime Manhattan Project, will be executive director of the laboratories. He was formerly director of the Atomic Energy Division of the H. K. Ferguson Co and director of the Theoretical Division of the Columbia Manhattan Project Laboratories, where he was responsible for theoretical problems in development of the K-25 gaseous diffusion plant at Oak Ridge, Tenn. Dr Cohen has also been associated with the General Electric Co and the Union Carbide & Carbon Corp in their nuclear work.

"Even though the full development of commercial atomic power may be retarded because of international events, its technological basis is essentially complete," Dr Cohen said. "The problem of atomic power for civilian use is not can we do it, but how soon can we make it economical."

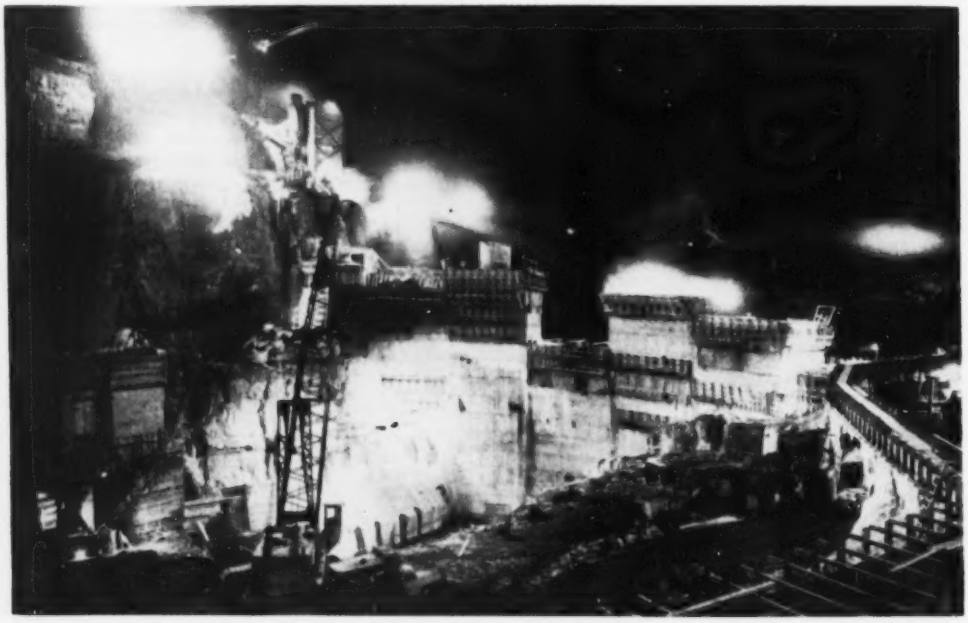
Reactor Specialist . . . Dr Cohen and Dr W. I. Thompson, who will be chief engineer of the Kidde Laboratories, have been engaged for several years in basic development of new types of reactors. Their work has been directed toward the development of low-cost reactors for eventual commercial application.

Atomic power plants today cost much more than conventional power plants to build but have a much lower power cost, Dr Cohen said. He estimated that a 100,000 kw atomic power plant should cost between $10 and $15 million.

"No one can build a nuclear power plant for this price yet," he said, "we are hopeful that it can be done. A low cost nuclear reactor for industrial use will be our objective."

John F. Kidde, president of Walter Kidde & Co, Inc, and a member of the board of directors of the new company, said, "We are confident that the day is not far off when atomic energy will be a civilian industry of major proportions. We recognize an opportunity for a pioneering firm to grow with the industry."

Development and engineering work of the Kidde Laboratories will be conducted at 140 Cedar Street, New York City. Laboratory research will be carried out in facilities on Long Island. The organization has an initial staff of 30 scientists and engineers.



Cabinet Gorge Dam Rises Under the Lights

Steady progress being made on Washington Water Power Co's Cabinet Gorge dam and power plant on the Clark Fork River in Idaho (EW, Dec. 24, 1951, p 4) will enable power delivery to begin in September. Work on the dam is advancing rapidly as shown in above photograph taken at night. The $40-million power project will have a capacity of 200,000 kw and will double total production of WWP's present plants.

TELEVISION COMMERCIALS are filmed by Central Arizona Light and Power for their daily television programs. Cartoonist has Reddy Kilowatt doing jobs which tie in with a 1-1½ minute commercial following presentation of two regular studio cartoons

SPECIAL 12-FT TOWER mounting 16-mm black and white movie camera at the top permits photographing cartoonist at work

Calapco Rolls Its Own TV Commercials

Daily television program for youngsters uses tailor-made leaders, trailers, and commercials produced with camera and drawing board in utility's advertising department

To set off its daily 15-minute television programs, Central Arizona Light and Power uses its own tailor-made cartoon and movie leaders and commercials. They are built around Reddy Kilowatt and are made by staff members using a standard black and white movie camera. Chief advantage over the usual type of spoken commercial following a film presentation is a continuation of the visual presentation and an opportunity to do the commercial in the same general style as the entertainment which preceded it.

Most of the work thus far has been with a photographic sequence of a cartoonist drawing Reddy in various activities tied in with promotion of electrical living—ranges, water heaters, study lamps, refrigerators and other home uses. Some direct animation has also been used, especially with titles. Both are relatively simple, once the equipment and techniques are at hand.

Photographic sequence requires a cartoonist able to work rapidly and accurately, and a setup for photographing him working at a drawing board. With the general outline of the cartoon barely indicated on the board, he is photographed working in 12-15 second stretches, generally showing the cartoon being started, in two or three intermediate stages, and completed. This gives ample opportunity to develop a typical Reddy Kilowatt doing any of a number of electrical jobs, and permits a 1-1½ minute running commentary commercial. Time required to make one such 1-1½ minute sequence is about 6 man hours.

By standardizing the tasks Reddy is doing as he materializes on the drawing board, the same film sequence can be used over again several times. Among those which have been prepared are sequences showing him supplying hot water for a bath (water heaters), cold milk for a meal (refrigerators), and light for studying (lamps). Other subjects already being used or planned include community service themes such as school programs, safety, kite flying, and the like.

The cartoonist has been photographed at work both seated before a standard tilting easel and leaning over a horizontal board with the camera directly above, as shown. Best of several combinations of drawing surface and crayon tried is a gray cover stock with a rough surface finish, and a regular china marking pencil. White papers offer too much contrast, and make for unsatisfactory reproduction on the black and white film. Some also wrinkle or provide too much reflection.

Direct animation has thus far been limited chiefly to titles for the program and introductions and trailers for the standard length cartoons which are furnished by the television station as the program material. Animation requires considerably more time, since it involves preparation of a large number of sketches which are photographed in sequence one at a time. A simple stand holds the camera and photolamps vertically above a horizontal board on which the sketches are fixed. The camera is advanced one frame at a time by a string release.

Animation of the program introduction has worked out very well. It opens with a theme song and a Reddy Kilowatt head on the screen. Reddy's

eyes follow letters as they appear on the screen spelling out "CALAPCO", then "PRESENTS. . . . REDDY KILOWATT CARTOON SKETCH BOOK". This animated sequence is spliced to one of the photographic sequences, showing the cartoonist at the board, drawing a Reddy Kilowatt to tie in with the 1-1½ min. commercial. Fade out is on the company name, with an announcement for the following day's program.

Modern Living—Electrical Living

For the second consecutive year, the Chicago Electric Association will cooperate with the Chicago Metropolitan Home Builders Association in co-sponsoring the Modern Living Exposition to be held at Navy Pier, May 17 through 25. Merle J. Lucas, Commonwealth Edison Company, has been appointed general chairman of the Electric Association's Exposition Committee.

In addition to individual exhibits of member companies, the Electric Association has been allotted space for educational exhibits featuring adequate wiring and the Electric Cooking Institute. In all, 10,000 feet of space will be devoted to products and services which make for "better electrical living". Other features will be model rooms, theater for educational movies such as interior decorating, and a giant garden display.

To Help Dealers Sell Farm Wiring

Rural electrical dealers are getting the informational and sales tools they long have needed—and wanted—in two new "personal" and consumer pieces just produced through the joint efforts of the National Adequate Wiring Bureau and the NEMA Farm Electrification Bureau. The "for dealers only" publication is an 8-page tabloid newspaper. Prepared for their information, the Farm Market Reporter is full of case histories by and about electrical dealers who learned the hard way that an adequate wiring system is necessary for the efficient operation of the equipment they have to sell. Copies of this publication are available without charge to power suppliers, electrical manufacturers, and national and local electrical organizations to be placed in the hands of rural electrical dealers.

The consumer piece, headed "Dear Folks" is designed to help dealers "talk" about adequate wiring to customers in a non-technical, informative way. It sets forth the "symptoms" of and the "remedies" for inadequate wiring systems. It helps dealers "sell" adequate wiring in a positive way; eliminates a possible obstacle to prospective sales and assists dealers in building future electrical business. Copies of the folder are $1.10 per hundred, plus postage. The folder is designed as both a hand-out piece and as an envelope stuffer. Those desiring to order quantities of the tabloid paper or the consumer piece may do so by addressing requests to either of the cooperating Bureaus, 155 East 44th Street, New York 17, New York.

G. E. Appliance Displays

Two series of point-of-sale displays designed for a year-round selling campaign tied in with the company's advertising program have been made available to dealers and distributors by the General Electric major appliance division. The displays are life-size in full color and are designed for use on sales floors or in store windows. Each series contains 10 basic displays designed to give dealers full support during the different selling seasons. One series, more elaborate than the other, is planned especially for larger stores, the second is for specialty stores. The two displays are described in full-color brochures—publication No. 1-661 for the more elaborate set and 1-631 for the specialty store series.

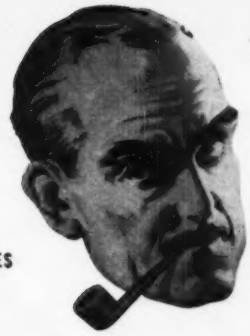
Planned for 1952

Union Electric Company of Missouri recently was host to more than sixty manufacturers, distributors, and salesmen of commercial electric cooking equipment at a luncheon given to present the company's cooperative promotional plans for 1952.

S. S. Sansbury of Union Electric reported on encouraging sales increases during 1951 and stated that a campaign to promote electric cooking equipment for preparing employees' food in industrial plants will be the major undertaking during this year. In the spring, attention will focus on portable appliances not requiring special wiring. During the summer, a survey will be conducted to determine prospects, while concentrated cooperative promotion to prospects will be carried out the rest of the year.

Wins $1,000 in Window Display Contest

Roy Benson, Georgia Power Co, receives from Dick Hardy, Westinghouse Electric Supply Co, check for $1,000 as Charles A. Collier, GPC vice-president, looks on. Benson won in a field of about 1,000 entries in a contest for the best window display featuring NCAA football telecasts sponsored by Westinghouse.



NO. 4 IN A SERIES

a transmission line engineer ASKS—

"is there an insulator that will reduce the effects of air pollutions ?"

here is the ANSWER:

Yes, there is. It is the PINCO L-1925 "UNIVERSAL" INSULATOR which is specifically designed to reduce to a minimum, the damaging effects of fly ash and other air-borne industrial wastes which tend to decrease insulator efficiency and create a costly operational maintenance problem.

and 5 reasons WHY . . .

1. Leakage distance of 17" is approximately 50% greater than 10" suspension unit.
2. Outside petticoats shielded above by bell; below by hood.
3. Long, tapered hood is self-cleaning; acts as a splatter-baffle to clean the petticoats.
4. In strings, interior of hood is shielded by unit below—protected against contamination, thus reducing manual cleaning requirements to a minimum.
5. Standard 5¾" spacing permits replacement of conventional 10" suspension units without re-sagging.

Service records over a period of 20 YEARS

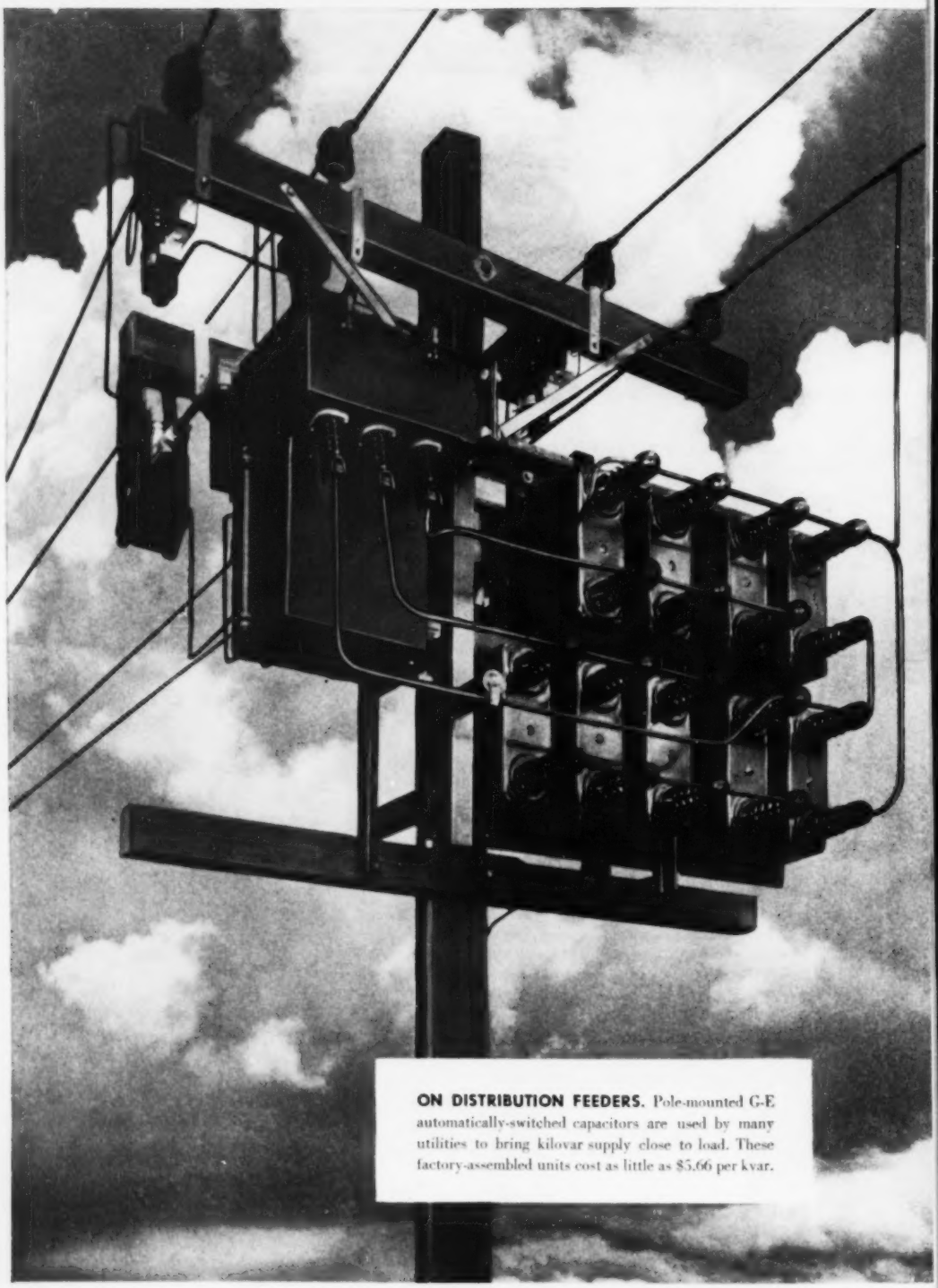
of continuous operation prove that thousands of these Pinco units have met their job requirements 100% in areas where excessive insulator contamination is an operational hazard. Certainly such a record of trouble-free performance proves that they're "right" where it counts . . . right on the job!

PINCO INSULATORS

The Porcelain Insulator Corporation ★ LIMA, NEW YORK

Sales Agents:
Jaslyn Mfg. & Supply Co.
Offices in
Principal Cities

JOB—



ON DISTRIBUTION FEEDERS. Pole-mounted G-E automatically-switched capacitors are used by many utilities to bring kilovar supply close to load. These factory-assembled units cost as little as $5.66 per kvar.

Peak-load capacity released quickly economically by G-E switched capacitors

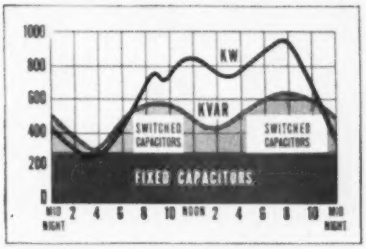
Capacitor equipments can be supplied on short delivery . . . some at a cost of less than $6.00 per kvar . . . installed in a matter of hours

Capacitors continue to provide one of the fastest, cheapest ways to release system capacity. By raising voltage levels and reducing system current for a given load, they can free the system for the delivery of more kilowatts—at a fraction of the cost—and in a fraction of the time—it would take to add new system capacity.

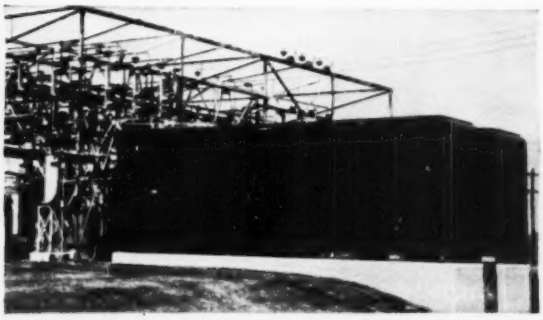
Where you have already installed a high percentage of fixed capacitors—or where your kilovar loading varies widely in any 24-hour period—it will pay you to investigate the use of switched capacitors to alleviate peak conditions.

Automatically-switched General Electric capacitors can be supplied on short delivery—for as little as $5.66 per kvar. They can be installed on your distribution feeders or at the substation—in a matter of hours. And they provide one of the least expensive methods of releasing system capacity.

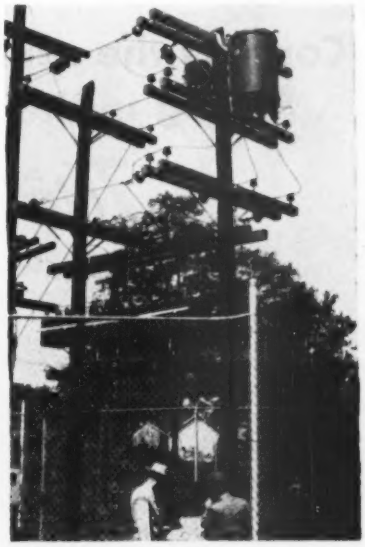
For information on how switched capacitors can help *you* to meet today's climbing loads, call your nearest G-E Apparatus Sales Office. Or write to Section 407-36, *General Electric Company, Schenectady 5, New York.*



FLEXIBLE KILOVAR SUPPLY. Where kilovar loading varies widely in any 24-hour period, G-E switched capacitors can supplement fixed capacitors in providing economical kilovars. (Ruled area shows kilovars furnished by synchronous condensers or system generators.)



AT THE SUBSTATION. General Electric switched capacitor equipments can be used in large banks to supply bulk kilovars. Completely-enclosed equipments like this 5100-kvar, 13,200-volt bank installed by Metropolitan Edison Co., now cost as little as $7.00 per kvar.



LOW COST SWITCHING. A G-E Type B-1 switch plus capacitors and hangers as used in this 600-kvar, 4-kv capacitor bank by Kentucky Utilities Co. is only $5.47 per kvar.

GENERAL ELECTRIC

Connect the service leads . . . plug in the meter . . .

That's all!

The STU Heavy-Duty Socket

There's no need to devise special metering facilities for heavy current applications when you use Westinghouse Transockets. All components are in place . . . complete with secondary wiring—ready for installation . . . all in a single package! Just connect the service leads, plug in the meter . . . that's all.

The STU High-Capacity Socket lets you utilize the full inherent capacity of Westinghouse 50 ampere meters, when installed on services using #4/0 wire. It's now available for polyphase as well as for single-phase applications.

The STS Transocket combines the socket and Type MR current transformers in one compact enclosure . . . handles heavy loads up to 400 amperes.

Both units are ready to install . . . inexpensively . . . easily . . . and take standard S-Type meters.

Here's real help! The Westinghouse "Meter Socket Selector," B-5284, makes it easy for you to select the proper socket for any application. It's 20 pages, fully illustrated, covering all types of service . . . all capacities. To get your copy, write: Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa. J-40426

You can be SURE . . . if it's

Westinghouse

METERS

Providing Job Satisfaction . . .

. . . for its 200,000 employees is the aim of concentrated General Electric program, company official tells SEE group

General Electric Co has embarked on a hard-hitting, concentrated program designed to provide complete job satisfaction for its more than 200,000 employees. W. V. Merrihuse, manager of employee relations, told the Southeastern Electric Exchange operators group meeting recently.

The plan envisions that the following goals will be met and maintained:

1. That GE pay and perquisites, GE bosses and GE working conditions are comparable and in most cases better than can be found elsewhere in American industry.

2. That because of good organization, smart management, adequate profits and the understanding cooperation of good employees, the GE job is one of the most secure.

3. That the GE "atmosphere" and personal associations are among the most rewarding.

4. That GE employees are highly respected members of a team receiving full information and contributing in turn fully of their ideas, skill, care, and effort.

5. That opportunities for advancement in GE are limited only by an employee's ambitions and talent.

6. That GE is the best place to work because its complete job package provides the greatest material and emotional rewards.

"However, our efforts to create better employee understanding, confidence and teamwork," he said, "are made difficult by the rapid rise in taxes and prices which has given employees the feeling that their living standards are being reduced."

To do the job requires management concentration on five major projects as follows:

1. Management Motivation—designed to motivate and integrate top management into a dynamic, efficient, competent, results-producing organization.

2. Selection Program for Supervisors—for helping to find the right man for each supervisory job opening, thus providing better, more competent supervision.

3. Two-way Communications—to eliminate rumors, misunderstandings, fears, and uncertainties by providing a free flow of information in both directions throughout every department of the company.

4. Steady Jobs Program—to identify the factors which contribute to later layoffs in time to minimize or correct them. And to convince employees that management is giving head and heart priority to employment planning.

5. HOBSO Program—to explain to supervisors and employees "How Our Business System Operates," giving them a better appreciation of what management is trying to accomplish in serving the balanced best interests of the customer, the employee, the shareowner, and the public.

"The future of General Electric—and of all private enterprise—depends on a new 'whole' top man in operating management," he declared. "And he will be a 'whole man," he said, "when he becomes as efficient and successful in employee relations as he has long been in engineering, manufacturing, marketing and finance."

IBEW Wins Over UWU in Pacific G&E Election

Some 12,000 employees of the Pacific Gas & Electric Co reaffirmed the right of the International Brotherhood of Electrical Workers, AFL, to bargain for them in a National Labor Relations Board election.

Results of the NLRB balloting showed 5,072 votes for IBEW, 3,158 for Utility Workers Union of America, CIO, and 156 favoring neither union.

Schools Receive Engineering Poster

To alert high school students to the opportunities in engineering and thus ease the critical shortage of engineers, more than 25,000 (four-color) posters are being mailed to all the secondary schools in the country by the Engineering Manpower Commission of Engineers Joint Council. Andrew G. Clausen Jr., president of the New York City Board of Education, is shown receiving the first of these posters from T. A. Marshall Jr., executive secretary of Engineering Manpower Commission. B. G. A. Skrotzki, chairman of the Guidance Committee, Engineers Council for Professional Development, is looking on.

Utility Security Yields on Downtrend

Favorable market helps to finance the large expansion program of power industry

In the first quarter of 1952 the bond market showed a generally moderate upward trend in prices (downward trend in yields) which has been of considerable assistance in financing the substantial construction program of the electric utility industry.

Yields on U. S. Treasury 2½s, due 1967-1972 declined 0.06% to a 2.69% basis and yields on the three qualities of bonds in the Electrical World indices declined from 0.07% to 0.10%.

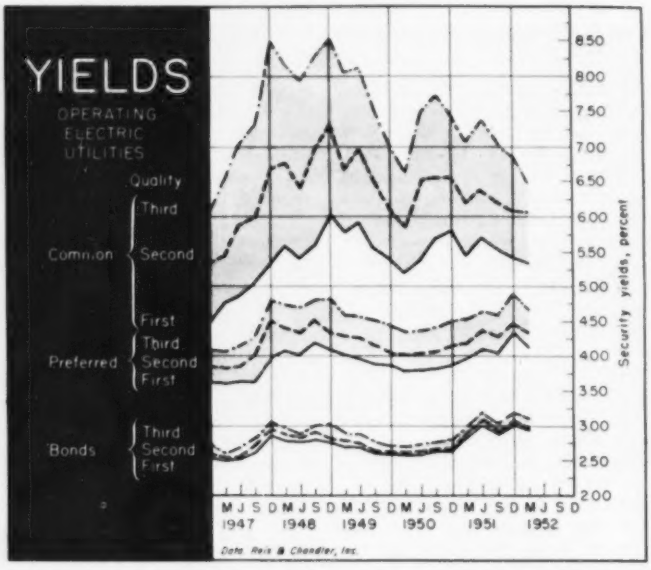
Higher Bond Yields . . . Yields to the public on electric utility bonds offered in the first quarter of 1952 ranged from 3.05% to 3.60%. These yields were substantially higher than those of outstanding issues as shown in the indices.

The experience of one larger issuer is indicative of the changes in the past year. In February 1951 its bonds were publicly offered on a 2.90% basis, in May 1951 on a 3.10% basis, and in March 1952 on a 3.25% basis.

Toward the close of the first quarter of 1952, improvement was noted and substantial purchases by institutional investors greatly reduced bond inventories. Total debt financing which amounted to $295.8 million was all for new money purposes and represented a larger sum than the financing in any of the four quarters of 1951.

Better Preferred Stock Market . . . The preferred stock market showed considerable improvement, of which a portion perhaps can be attributed to expectations that savings banks in New York State might be sizable purchasers. Legal authorization for such purchases has been approved.

The indices show a decline in the yields of outstanding preferred stock of approximately ¾ of 1% during the first quarter, a marked improvement. It was still necessary, however, to offer much higher yields for new issues to induce investors. Yields on new issues at the public offering prices varied between 5.25%, for one issue offered in January, to a low of 4.35%. Emissions of $60,983,000 were substantially below the total for the fourth quarter of 1951, when there were three unusually large issues which required considerable investment demand. One issue in 1952, however, aggregated more than $15 million.



SECURITY YIELDS of all qualities declined in the first quarter of 1952 as the bond and stock market prices for electric utility securities showed a considerable improvement

Common stocks of public utility companies enjoyed a good market. The Dow-Jones utility average went above 50, compared with a level of 47 at the beginning of the period.

Higher Dividends . . . Dividends were increased moderately by a number of companies, including Central Louisiana Electric Co, Cleveland Electric Illuminating Co, Long Island Lighting Co, Public Service Co of New Mexico, Green Mountain Power Corp, and Missouri Public Service Co.

Common stock yields during the first quarter declined approximately 1/10 of 1% for the first quality companies to ⅓ of 1% for those of third quality in investment standing. Total offerings of approximately $86 million, of which all but $5.6 million was new money, represented a continued high level of activity.

With heavy construction programs still progressing, continued high levels of public utility financing are indicated. The improvement in the preferred stock has been encouraging, but more common stock financing is both desirable and likely.

Public Offering Electric Utility Securities
(Totals Estimated in Thousands of Dollars)

	First Quarter of 1952			First Quarter of 1951		
	New Money	Other	Total	New Money	Other	Total
Bonds, Notes, and Debentures	295,800	.....	295,800	238,634	9,866	248,500
Preferred Stocks	60,983	.....	60,983	23,660	.....	23,660
Common Stocks	80,347	5,601	85,948	120,585	.....	120,585
Total	437,130	5,601	442,731	382,879	9,866	392,745

Today in Utility Finance

YIELDS (%)

Quality	Bonds			Preferred Stocks			Common Stocks		
	1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd
DATE									
1952									
April 17	**2.93**	**2.96**	**3.11**	**4.04**	**4.26**	**4.64**	**5.43**	**6.06**	**6.54**
April 10	2.94	2.97	3.11	4.05	4.24	4.64	5.34	6.01	6.46
1st 1952	2.95	2.99	3.13	4.11	4.29	4.66	5.35	6.03	6.47
4th 1951	3.02	3.07	3.21	4.32	4.50	4.91	5.46	6.18	6.84
3rd 1951	2.87	2.91	3.04	4.05	4.27	4.61	5.52	6.24	7.05
2nd 1951	3.02	3.11	3.23	4.11	4.37	4.68	5.73	6.38	7.37

Data: Reis & Chandler, Inc.

EARNINGS

Company	Period Months	Ended	Net Income 1952	Net Income 1951	Earnings Per Common Share 1952	Earnings Per Common Share 1951
Carolina Power & Light	12	Mar.	$6,482,163	$6,281,911	$	$
Detroit Edison	12	Feb.	15,911,762	16,315,518	1.69a	2.05a
			1951	**1950**	**1951**	**1950**
Arizona Public Service	12	Dec.	$2,163,000	$2,080,000	$1.01a	$1.02a
El Paso Electric	12	Dec.	1,457,449	1,397,120	1.82	1.74
Idaho Power	12	Dec.	3,262,604	3,139,999	2.87	2.79
Michigan Gas & Electric	12	Dec.	391,300	369,300	2.40	2.25
Public Service Co of New Hampshire	12	Dec.	2,230,966	2,100,542	1.60	1.86

Note—The figures shown for the last five companies have been audited.
a—On shares outstanding at end of each period.

FINANCING

Company and Description	Amount of Offering (000)	Offering Price	Yield to Public
WEEK OF APRIL 17-23			
Bonds			
Alabama Power—1st mtg 3¼% 1982	$12,000	102.75%	3.23%
Preferred Stock			
Wisconsin Power & Light—15,000 sh 4.80% cum (being offered to preferred holders, record March 31 to expire April 21, subject to allotment in the case of oversubscriptions)	$1,500	$101.50	4.73%
Common Stock			
Interstate Power—345,833 sh (being offered to commonholders on 1-for-6 basis (a), record April 4 to expire April 18)	$2,991	$8.65	6.94%
Wisconsin Power & Light—288,208 sh (being offered to commonholders on 1-for-7 basis, record March 31 to expire April 21)	4,943	17.15	6.53
Carolina Power & Light—200,889 sh	7,056	35.125	5.69
Gulf States Utilities—230,578	5,271	22.00	5.45
Tucson Gas, Electric Light & Power—140,000 sh	3,710	26.50	6.04
WEEK OF APRIL 24-30			
Bonds			
Union Electric Co. of Missouri—1st mtg 1982	$30,000	.....	.....
Common Stock			
Indianapolis Power & Light—196,580 sh (being offered to commonholders on 1-for-7 basis (a), record April 10 to expire April 24)	$6,831	$34.75	5.76%
SCHEDULED FOR MAY			**Bid Date**
Bonds			
Wisconsin Electric Power—1st mtg 1982	$12,500	.....	May 5
Texas Electric Service—1st mtg 1982	8,000	.....	May 6
Texas Electric Service—debentures 1977	5,000	.....	May 6
Worcester County Electric—1st mtg 1982	4,000	.....	May 13
Iowa Power & Light—1st mtg 1982	8,000	.....	May 21
Preferred Stock			
Dallas Power & Light—100,000 sh $100 par	$10,000	.....	May 6 26
Common Stock			
South Carolina Electric & Gas—417,719 sh (being offered to commonholders on 1-for-5 basis, record April 15 to expire May 1)	$4,021	$9.625	6.23%
New England Electric System—920,573 sh (to be offered to commonholders on 1-for-8 basis, record May 8 to expire May 26; competitive bids will be asked)	.....	.....	May 7
New York State Electric & Gas—300,000 sh	.....	.....	(b)May 14
Iowa Power & Light—226,928 sh (to be offered to commonholders on 1-for-7 basis, record May 14 to expire May 28)	.....	.....	.....
Wisconsin Electric Power—702,486 sh (to be offered to commonholders on 1-for-5 basis)	.....	.....	.....
Central Vermont Public Service—108,900 sh (to be offered to commonholders on 1-for-6 basis; New England Public Service, owner of 35.5% of common to waive its subscription rights; competitive bids will be asked)	.....	.....	.....

Notes—(a) Stockholders are allowed oversubscription privileges, and (b) First Boston Corp, underwriter, if stockholders vote May 1 to waive their pre-emptive rights.

Union Electric Stock Plan Is Filed With SEC

Directors of North American Co and of Union Electric Co of Missouri have approved a plan for North American to distribute to its stockholders all of Union's outstanding common stock over a two-year period. The plan has been filed with the Securities and Exchange Commission under the provisions of the Public Utility Holding Company Act of 1935. Following such distribution, North American would be dissolved.

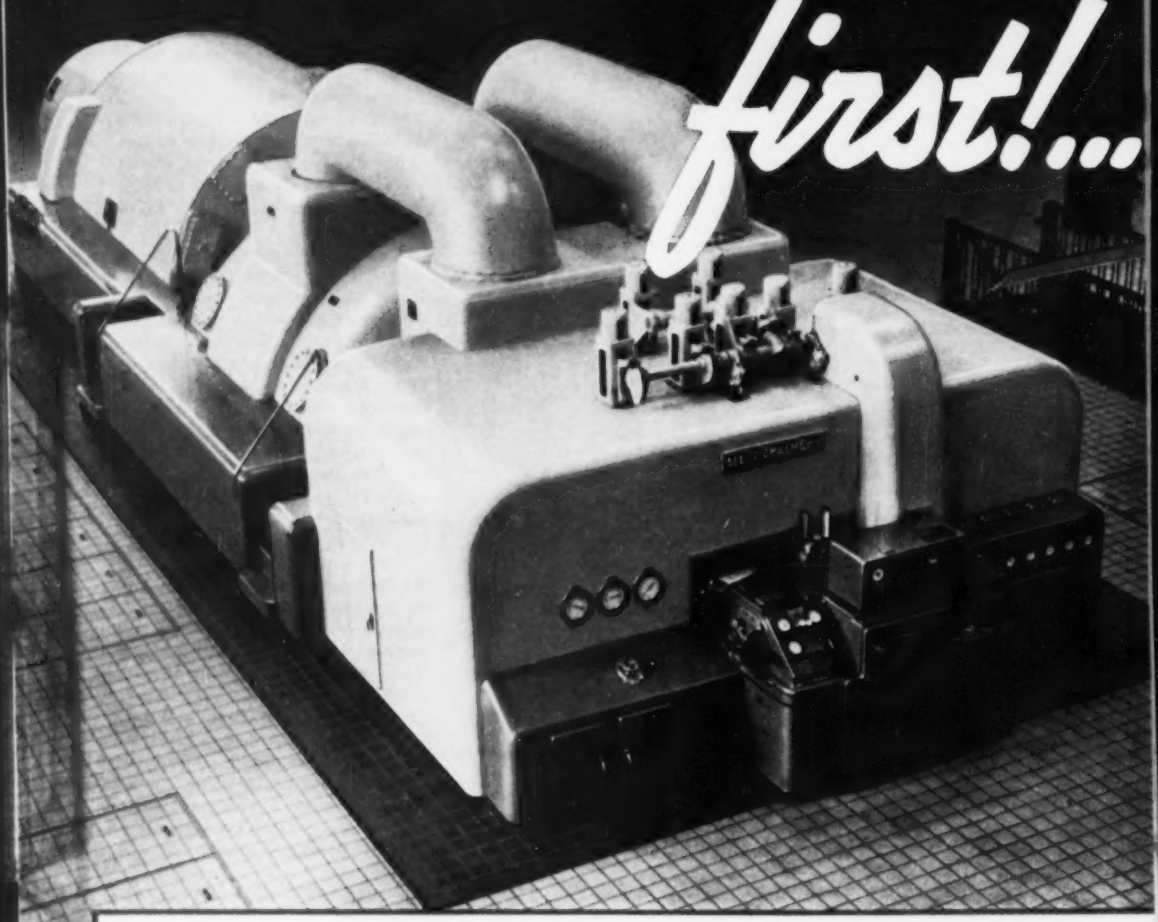
J. W. McAfee, president of North American and Union Electric said Union Electric's stock would be distributed as follows: In each of two successive years holders of North American would receive one share of Union for each ten shares of North American, with cash in lieu of fractional shares; at the end of two years an additional share of Union would be given for each share of North American, so that total distribution ultimately would be 1-1/5 shares of Union for each North American share.

North American states it is expected that during the two-year period Union will maintain a $1.20 a year dividend on the publicly held stock. Until the plan filed with SEC becomes effective, North American will continue to pay dividends on its common stock. After the plan becomes effective, it is expected that no further cash dividends will be paid by North American. After the distribution of Union, North American would transfer to Union Electric all remaining assets or cash proceeds and then be dissolved.

FINANCIAL BRIEFS

Kansas Gas & Electric Co proposes to sell $12 million first mortgage bonds and 200,000 common shares in mid 1952 . . . **Florida Power & Light Co** plans to sell up to 350,000 shares of $100 par preferred stock from time to time . . . **Southern California Edison Co** expects to raise $25 to $28 million more of new capital later this year . . . **Central Maine Power Co** will make short-term loans to take care of its $8.5 million construction program, Pres William F. Wyman has revealed. Company will arrange permanent financing later, he said.

ANOTHER ALLIS-CHALMERS *first!...*



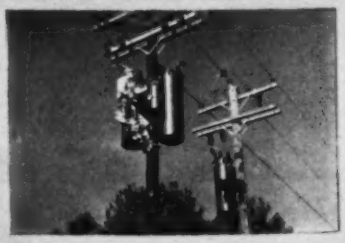
Equipment for Power: Water Conditioning equipment, chemicals and service . . . Steam and Hydraulic Turbines . . . Generators . . . Condensers . . . Steam Jet Air Ejectors . . . Power Plant Pumps and Motors . . . Transformers . . . Circuit Breakers . . . Switchboards and Control . . . Switchgear . . . Unit Substations . . . Utilization equipment.

ALLIS-

IT PAYS TO KEEP PACE WITH MACHINERY PROGRESS

Extend Distribution Regulator Line

Low-cost ⅝% step distribution voltage regulators are now available for every feeder. Additional ratings continue the long line of firsts for the power industry—paced by the introduction of ⅝% step regulators 19 years ago.



Supercharged Cooling

On-the-Line Performance of New-Design Turbine-Generator Proves Worth of Cooling with High-Velocity Hydrogen in Direct Contact with Conductors

IT'S BEEN SAID that good things come in small packages, and here's one that definitely does. Supercharged hydrogen cooling of this turbine-driven generator permitted a reduction in length sufficient to provide numerous design, installation and operating advantages.

Already proved in operation at the Wisconsin Power and Light Company's Edgewater Station, this precedent-setting turbine-generator is to be duplicated in two additional units now on order for the same company.

CHECK THESE ADVANTAGES

In this 60,000-kw, 3600-rpm turbine-generator, a two stage centrifugal compressor integral with the rotor drives hydrogen *through* the rotor conductors at high velocity. This supercharged cooling provides these advantages:

- Generator length reduced—permitting smaller plant size.
- Generator weight cut 25 percent — reducing foundation requirements.
- Subtransient reactance increased — permitting smaller breakers and bus structures, and resulting in lower torques under fault conditions.
- Differential expansion reduced, due to shorter length and greater temperature uniformity.

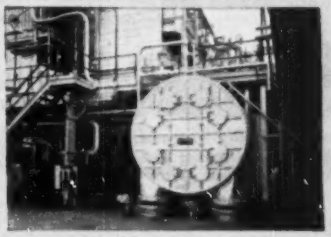
DISCUSS YOUR NEEDS

Because of pioneering achievements like this, you know that you can rely on Allis-Chalmers for engineering leadership in power production and distribution equipment. And you gain most when you call in your A-C representative during the early planning stages. Allis-Chalmers, Milwaukee 1, Wisconsin. A-3631

CHALMERS A-C ALLIS-CHALMERS

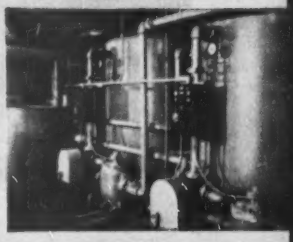
Built for Outdoor Operation

Condensers and auxiliaries are being built for more and more outdoor central-station installations, and Allis-Chalmers is continually developing improved designs for such money-saving power plant applications.



Add New Ion Exchangers

Demineralizers, ion exchangers and water conditioning equipment, chemicals and service of all types — including latest alkalinity-reducing ion exchangers — are available, engineered to fit your requirements.



GENERAL ELECTRIC CO'S "cyclometer" served as a background when Pres Ralph J. Cordiner addressed 2,200 persons at the company's 60th annual share owners meeting held recently at Schenectady, N. Y. The unit showed that GE paid $1,000 in taxes every 78 seconds in 1951

GE Meeting Told Sales Off 2%

Ralph J. Cordiner, president of General Electric Co, told share owners that the company's first quarter sales of $560,556,576 were 2% less than the record first quarter total of $569,688,610 for 1951. His address was delivered to a record session of 2,200 share owners and guests who attended the company's annual meeting at Schenectady, N. Y.

Cordiner revealed that the first quarter net profit of $29,024,191 was 17% less than the $34,996,395 reported a year earlier. Share owners were informed that net profit equaled 5.2¢ per dollar of sales and $1.01 per share of common stock. These figures compared with 6.1¢ and $1.21 a share for 1951.

President Cordiner advised the share owners that GE planned to revise its estimated expenditure of $350 million for new plants and equipment up to $550 million because of accelerated demand for General Electric products.

Overlooking the meeting area in the company's new addition to its 20-acre turbine building was a large "cyclometer" which ticked off GE's tax payments in 1951, which totaled $402,609,000. The counters marked up $1,000 every 78 seconds.

STOCKHOLDERS at 66th annual meeting of Westinghouse Electric Corp watch refrigerator cabinets go by on an assembly line at firm's appliance plant, Mansfield, Ohio, where meeting was held. Visitors toured manufacturing areas after a luncheon in plant cafeteria

1st Quarter Sales . . .

. . . of Westinghouse rise 11.5% over '51 period. Income drops

Westinghouse Electric Corp's sales for the first three months of 1952 reached $323,820,000, second highest in the company's history and an increase of 11.5% over first quarter sales of $290,407,000 in 1951.

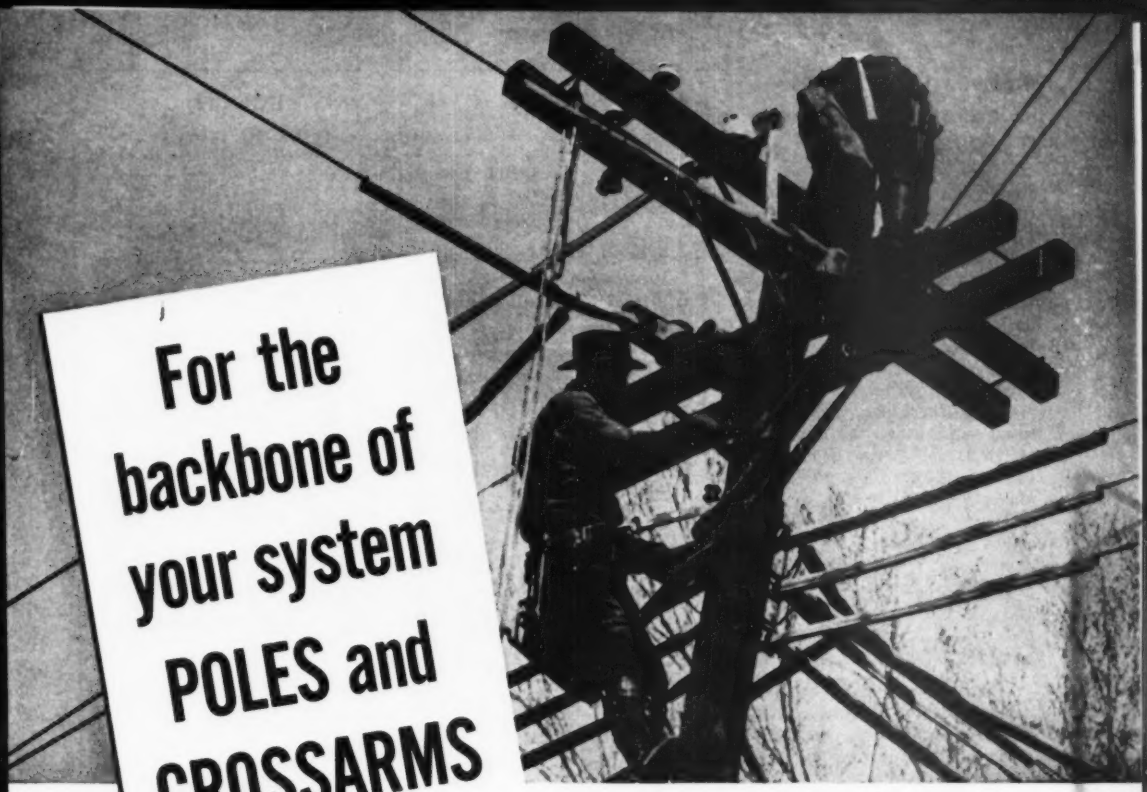
Pres Gwilym A. Price disclosed this information before 450 stockholders and guests who attended the company's 66th annual meeting held recently at Appliance Division headquarters at Mansfield, Ohio.

Price also informed the stockholders that higher taxes and increased costs of labor and materials pared net income to $15,485,000 as compared with $16,692,000 in the first three months of 1951. First quarter earnings were equivalent to 96¢ a share on 15,549,697 shares of common stock outstanding compared with $1.05 a share on 15,376,674 shares outstanding in the same period of 1951.

Taxes Higher . . . Taxes during the first quarter amounted to $27,763,000, an increase of more than 4% over $26,668,000 for the 1951 period.

These higher taxes and increased cost of labor and materials reduced the return on the near-record sales of the first quarter to 4.8%. The return in the first quarter a year ago was 5.7% on net sales billed.

Price pointed out that during 1951 shipments of defense items by Westinghouse represented 15% of total orders shipped. In 1952, he said, we expect that shipments of defense products will exceed 20% of all orders shipped.



For the backbone of your system POLES and CROSSARMS

Via GraybaR

The pole-line backbone that supports today's essential power lines needs seasoned strength and durability to do its job efficiently and at low maintenance cost.

That's one reason why power companies all over the nation choose Graybar for all their pole-line needs. They know that Graybar-distributed materials are always right for the job and stand up under abnormal stress of storms, ice, and snow.

POLES – Differing conditions lead to different local preferences. That's why Graybar distributes *all* types of poles – full-length, pressure-treated Southern Pine . . . full-length, pressure-treated Fir and Cedar . . . butt-treated Northern and Western Cedar.

All treated poles are carefully selected and processed to provide maximum strength and durability – plus the clean, smooth exterior surface required for city use.

CROSSARMS – Douglas fir crossarms via Graybar are selected and seasoned under rigid methods – are strong, long-lasting, and provide a wide margin of safety in the line.

POLE-LINE SUPPLIES – Graybar also distributes insulators, wire, cable, strand, hardware, tools, and hundreds of other needed pole-line supplies – all products of outstanding manufacturers.

To keep the backbone of your system strong, order your supplies from Graybar. You'll always get dependable items, and the nationwide Graybar warehouse system helps assure the *fastest possible* deliveries under today's uncertain conditions.

Because Graybar is wholly owned by its operating and retired personnel, you can always expect an extra measure of personal interest in serving you. Feel free to call your local Graybar Representative for information on any electrical item . . . call your nearby Graybar Outside Construction Specialist for planning aid and technical advice.

Graybar Electric Company, Inc. Executive Offices: Graybar Building, New York 17, N. Y.

148-04

Everything for your pole lines
Via GraybaR

IN OVER 100 PRINCIPAL CITIES

Refined Copper Stocks Decrease During March

Stocks of refined copper held in the United States by members of the Copper Institute, Inc, at the end of March totaled 58,487 tons, a decrease of 1,260 tons below the 59,747 tons held on Feb. 29.

During March deliveries to domestic fabricators increased to 112,625 tons compared with deliveries of 104,795 in February. Refined production, however, dropped to 94,563 tons from 95,979.

Outside the United States refined stocks amounted to 163,220 tons on March 31, an increase of 8,449 tons over the 154,771 tons on Feb. 29. March deliveries dropped to 77,427 tons from 84,061 in February and refined production for the month of March was 98,767 tons compared with February's 95,264.

Seattle Awards Contract

Learning that the Baldwin-Lima-Hamilton Corp, Philadelphia, would not be able to meet its schedule for producing steel linings for tubes which will convey water away from two of three turbines to be installed in Seattle City Light's Ross Dam powerhouse, the Seattle City Council awarded an $87,000 contract for the linings to the Todd Shipyards Corp, Seattle. Baldwin-Lima-Hamilton hold a $2.9 million contract for the powerhouse turbines which was to have included the linings.

MANUFACTURING BRIEFS

Line Material Co, Milwaukee, Wis., has started a new catalog numbering system which is designed to simplify the identification and ordering of L-M materials. To date, the company has issued a new Elemex Capacitor bulletin and cross-reference index sheet.

Similar catalog number changes for all other Line Material products will be published shortly.

Production of primary aluminum in the United States during February was 9 million lb less than in January —144,661,327 lb, compared with 153,867,619 lb for the preceding month.

NEW ELECTRICAL CONSTRUCTION

A weekly selection of U. S. electrical construction projects announced by private and government utility systems involving more than $70,000. Also listed are major industrial and construction jobs where electrical work is indicated or implied

UTILITIES

Proposed Construction

California—Anza Electric Co-operative, Anza, 210 mi. rural distrn. line, 20 mi. 33 kv transmission line and sys. imprvs., Riverside Co. $750,000.

Calif., Agnew—State Div. Architecture, P. Wks. Bldg., Sacramento, power house at Agnew State Hospital. Plans deposit $50.

Colorado—Bureau Reclamation, Dpt. Interior, Bldg. 53, Denver Federal Center, Denver, furnishing, del. f.o.b. Loveland, control board, control and telemetering boards, etc. for Pole Hill Power Plant; control and telemetering panel and assoc. equipment, etc. for Flatiron Power Plant, Colorado-Big Thompson Proj., Spec. DS 3705, L. N. McClellan, ch. engr.

Fla., Dade City — Withlacoochee River Electric Co-operative, Dade City, warehouse and office, Howell C. Hopson, Leesburg, archt.

Iowa—Benton Co., Vinton, distr. lines and sys. imprvs., Benton Co., $285,000. A. W. Grubb, Vinton, consult. engr.

Iowa—Greene Co. Rural Electric Co-operative, Jefferson, 27 mi. rural distr. lines, sys. imprvs. and completion of previously approved construction, $144,000. Brown Eng. Co., K. P. Bldg., Des Moines, consult. engr.

Ky., Madisonville—City, Madisonville, light plant, $850,000.

La., New Orleans—New Orleans Levee Dist., Civil Courts Bldg., overhead electric sys., at Lincoln Beach.

La., New Orleans—Port of New Orleans Comrs., 2 Canal St., Proj. SD 8006, boiler and piping at power house at Public Commodity Warehouse. Plans deposit $25.

La., Shreveport—U. S. Eng., 300 Broadway, Little Rock, Ark., electric distr. sys. Primary line only FY 1952 addns., Inv. 52-33, $200,000; sub-stations, services, street lighting, FY 1952 addns., Inv. 52-35, $375,000, Barksdale Air Force Base.

Mo., Springfield—City, Bd. P. Utilities, 224 E. Walnut St., power substation to handle 10,000 kw. from Govt. Bull Shoals plant, $250,000.

Montana—Bureau Reclamation, Dpt. Interior, Billings, one 5,000 kva transformer with 3 lighting arresters for Circle sub-station, Ford Peck Proj., Spec. 606S-93, L. N. McClellan, Bldg. 1-A, Denver Federal Center, Denver, Colo., ch. engr.

Oregon—Bonneville Power Admin., 827 N. E. Oregon St., Portland, clear right of way and construct Madras-Redmond 230 kv transmission line, 26.1 mi. Inv. 6416, Jefferson and Deschutes Counties. Plans deposit $25.

Oregon—Coos-Curry Electric Co-operative, Coquille, 64 mi. rural distr. line, sys. imprvs. and completion of previously authorized constr. Coos Co., $1,350,000.

South Carolina—Central Electric Power Co-operative, c/o Southern Eng. Co., engr., 1000 Crescent Ave., N.E., Atlanta, Ga., control houses at Aiken, Orangeburg and St. George.

Texas—Medina Electric Co-operative, Hondo, construct lines and sys. imprvs., Medina Co., $3,700,000.

Tex., Floydada—City, voted bonds, electric power plant imprvs., extens., $200,000.

Va., Williamsburg—William & Mary College, Williamsburg, power plant. Plans deposit $50.

Washington—Bonneville Power Adm., 827 N.E. Oregon St., Portland, Ore., clearing right-of-way, constr. 7.1 mi. Ross—St. John 230 kv line, Inv. 6423, Clark Co. Plans deposit $25.

Washington—Bonneville Power Admin., 827 N.E. Oregon St., Portland, Ore., construct new Cath'amet substation, Inv. 6426. Plans deposit $25.

West Virginia—Hardy County Light & Power Assoc., Moorfield, 49 mi. electric distr. line and system imprvs., Hardy Co., $145,000.

Wyoming — Bureau Reclamation, Dpt. Interior, Bldg. 53, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars shipping point of f.o.b. cars Casper, switchgear assemblies for Alcova Power Plant, Kendrick Proj. Spec. DS 3707, L. N. McClellan, ch. engr.

Low Bidders & Contracts Awarded

Arkansas—Arkansas Light & Power Co., Simmons National Bldg., Pine Bluff, Ark. Owner Builds, $104,000, 52 mi. electric lines in Montgomery and Garland Counties.

Idaho—J. A. Jones Constr. Co., 1117 2 St., Seattle, Wash., and Charles H. Tompkins, 907 16th St. N.W., Wash., D. C., LB, $28,783,628, Palisades Dam and Power Plant, LB, $396,718 relocation roads, Payette River near Idaho Falls, Spec. DC 3675. Bureau Reclamation Dpt. Interior, Idaho Falls, Idaho. Bids Apr. 10.

Maine—Ellis C. Snodgrass, Inc., 465 Congress St., Portland, Me. CA Approx. $12,700,000, power project on Upper Kennebec River, Indian Pond and The Forks. Central Maine Power Co., 9 Green St., Augusta, Me.

Mich., Dearborn—Kuljian Corp., 1200 N. Broad St., Phila., Pa. CA $7,500,000, design and construct No. 1 power plant facilities, Ford Motor Co., 3000 Schaefer St., Dearborn, Mich.

Miss., Yazoo City—Dixie Builders & Supply Co., Raleigh, Miss. CA $85,900, warehouse-office, Yazoo Valley Electric Power Assoc., Yazoo City, Miss. Bids Apr. 7.

Montana—The Electric Co., Port Angeles, Wash. CA $101,807, Inv. 6347, constr. Hot Springs sub-station, Sanders Co. Bonneville Power Admin., 827 N.E. Oregon St., Portland, Ore. Bids Mar. 27, awarded Apr. 4.

INDUSTRIAL, COMMERCIAL & PUBLIC BUILDINGS

Proposed Construction

Calif., Fontana—Owners, c/o Harms Bros. Constr. Co., 4261 Stockton Blvd., Sacramento, 4,000 homes, residential and business development, $45,000,000.

Ill., Chicago—Admiral Corp., 3800 W. Cortland St., plans by Paul Gerhardt, 30 N. La Salle St., Zone 2, factory and office, Hamiltin and Cortland Sts. $3,000,000.

Ind., La Porte—Allis-Chalmers Mfg. Co., 814 S. 70 St., Milwaukee 1, Wis., plans by Chas. Cole & Son, 226 S. LaSalle St., South Bend, 210,000 sq. ft. factory, $3,000,000.

Alta., Red Deer—International Resources Ltd., c/o R. E. Randall, pres. 405 Prospect St., Seattle, Wash., U. S. A., Pulp mill, $13,000,000. H. N. Simpson, Central Bldg., Seattle, 4, Wash., U. S. A., engr.

Low Bidders & Contracts Awarded

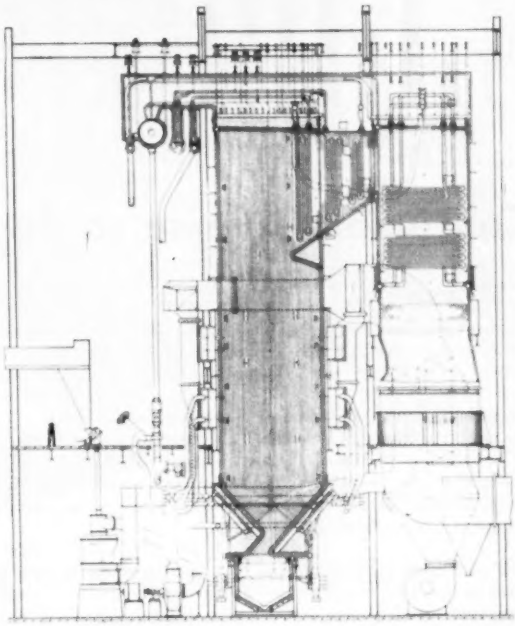
Kan., DeSoto—Massman Constr. Co., 20 W. 9 St., Kansas City, Mo. and Patti Contr. Co., 1340 Admiral Blvd., Kansas City 6, Mo. CA $17,000,000, rehabilitate, renovate buildings, new buildings, 70 mi. railroad, 105 mi. roads, Sunflower Ordnance Works, c/o Col. Don. M. Hoffman, Co., DeSoto, Kan. Hercules Powder Co. will operate. Tanner & Mitchell, 310 Ward Parkway, Kansas City 2, Mo., engrs.

N. J., Newark—Fishman Realty & Constr. Co., 455 Park Ave., New York 11, N. Y., Owner Builds, $16,000,000, 5 fourteen story bldgs. for 2,095 families on 25-acre site at Irvington Ave. and Mt. Vernon Place to be known as Ivy Hill Park, Newark, N. J. Kelly & Gruzen, 80 Fifth Ave., New York, 3, N. Y., archts.

CHESTERFIELD STATION

Virginia Electric & Power Company

C-E controlled circulation boilers



The C-E Unit shown above is now being installed in the Chesterfield Power Station of the Virginia Electric & Power Company at Wheelright, near Richmond, Virginia. Stone & Webster Engineering Corporation are the engineers and constructors.

It is designed to serve a 100,000 kw turbine-generator operating at a throttle pressure of 1450 psi with a primary steam temperature of 1000 F, reheated to 1000 F.

The unit is of the controlled-circulation, radiant type with a reheater section located between the primary and secondary superheater surfaces. An economizer section is located below the rear superheater section and regenerative type air heaters follow the economizer surface.

Pulverized coal firing is employed, using bowl mills and tilting tangential burners. Arrangements are made to use oil as an alternate fuel.

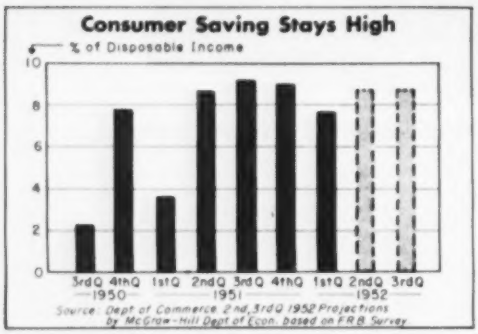
C-E

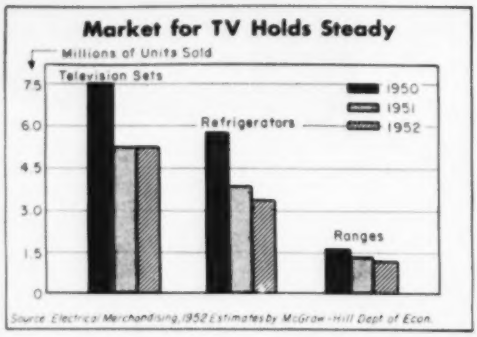
COMBUSTION ENGINEERING—SUPERHEATER, INC.

200 Madison Avenue, New York 16, N. Y.

ALL TYPES OF BOILERS, FURNACES, PULVERIZED FUEL SYSTEMS AND STOKERS; ALSO SUPERHEATERS, ECONOMIZERS AND AIR HEATERS

ELECTRICAL BUSINESS OUTLOOK





Consumers Averse to Buying Appliances

Electric appliance dealers got a new jolt last week when the Federal Reserve Board released its 1952 survey of consumer plans for spending and saving. The survey shows that Americans plan to buy fewer appliances this year than in 1951, which was not exactly a banner year.

The survey's news is worst for dealers in refrigerators, console radios, and washing machines. Consumers indicated the largest drop in purchase plans for those appliances. And they said they would buy most of their new refrigerators in the first six months of 1952. That means sales may get even worse later this year.

Until now many appliance dealers had been expecting a pickup in sales later in 1952. They figured that consumers would start spending more money sooner or later—rather than go on building up bigger savings balances. But the survey shows that consumers plan to save about as much of their incomes as they did late last year.

FRB Survey Accurate in Past . . . These results can't be shrugged off lightly. The FRB survey has a phenomenal record for accuracy. It was started in 1946 and has correctly foreseen consumer buying patterns ever since. When other forecasters have disagreed with the survey's results in the past, it's been the forecasters who were wrong —not the survey.

There are a few bright spots in the survey's results. Consumers plan to buy about as many television sets as they did in 1951. And sales of other standard appliances like ranges and vacuum cleaners are expected to stay fairly steady through the year—though at a somewhat lower level than in 1951.

Housing demand is still very strong (EW, March 31, p 50). People plan to buy almost as many houses—both new and existing—in 1952 as in 1951. Tentative plans for 1953 are also very promising. Just about as many people expect to buy homes then as in 1952.

Steady demand for housing will put some cushion under appliance sales. Sales of appliances to builders are not included in the Reserve Board's survey. With more and more new houses being sold complete with electrified kitchen, washing machine, and even a dishwasher, a substantial part of appliance demand will be unaffected by the change in consumer plans.

But the continuing boom in housing probably means more for appliance sales in 1953 and 1954 than it does for 1952. People who buy homes not already fully electrified will make a good market for appliances in the future.

What Could Help Sales in 1952? . . . Despite its good record, the FRB survey is not infallible. A number of things could happen to change consumers' plans before very long. One is obvious—a threat of war, which might start another wave of scare buying.

A change in prices might do the job, too. The survey shows that high prices are one of the major causes of consumers' reluctance to invest in appliances. And these price declines may materialize.

With inventories of appliances still high, and with their increasing ability to turn out more (EW, March 17, p 50), manufacturers are likely to turn to price cutting as a cure for lagging sales. This has already happened in television. Major producers recently cut prices by $20-$90 a set.

Similar price cutting on other appliances might lure consumers who think prices are too high back into the market. And TV will get another boost from the end of the FCC freeze on telecasting stations. Very few new stations will be erected in 1952. But dealers can now sell sets in new areas—in anticipation of the construction of stations within the next year and a half.

Credit restrictions are another villain in the eyes of appliance dealers. And credit restrictions may be eased before too long. The Federal Reserve Board recently raised the limit for exemption of sales from Regulation "W" from $50 to $100. Politics may bring other changes.

You . . . are Yesterday's Children

YES, you are yesterday's children. You . . . the banker, the lawyer, the utility executive, the engineer, the purchasing agent, and so on! Yesterday, it was baseball or football. Today, it's business . . . and business is good . . . or bad . . . because of your planning and decisions.

Many utilities today are enjoying the fruits of wise planning and direction, planning which foresaw today's volume and requirements. That many of you chose Moloney equipment in preparing for this peak, is a tribute to your foresight and to our integrity in producing only the best and most dependable equipment . . . to help you give *better* service . . . at *all* times.

M-E-52-1B

MOLONEY ELECTRIC COMPANY

Manufacturers of Power Transformers • Distribution Transformers • Load Ratio Control Transformers Step Voltage Regulators • Unit Substations

MOLONEY ELECTRIC = { BETTER PERFORMANCE / GREATER RELIABILITY / LESS MAINTENANCE

SALES OFFICES IN ALL PRINCIPAL CITIES • FACTORIES AT ST. LOUIS, MO. AND TORONTO, ONT., CANADA

GET *Low Cost* LOAD CHECK WITH THE NEW Thermalite OVERLOAD INDICATOR

LOOKING FOR AN INEXPENSIVE, practical way to load survey your distribution system? Why not investigate the advantages of the new *Thermalite* overload indicator now available in Allis-Chalmers transformers. This simple, reliable device will:

1. Offer a continuous visual load check that may be conducted from your service truck.
2. Locate transformers carrying high loads; eliminate extensive and costly area surveys.
3. Provide a visual check on transformers in hard-to-get-at locations.

Thermalite overload indicator lights up brilliantly in response to high oil temperatures — and remains lighted during the overloaded conditions until reset manually with the convenient reset handle. Though the signal device locates overloaded transformers visually, it *does not interrupt service.* It's quiet in operation, low in cost . . . and is engineered, calibrated and installed in the transformer at the factory.

You'll find that the *Thermalite* overload indicator will offer economies never before possible. You will be able to keep more up-to-date records on transformer performance — permitting you to schedule transformer replacements or load rearrangements during daylight hours. It will help to eliminate emergency service interruptions, costly maintenance and possible burnouts.

For more facts and a demonstration of its operating principle, call your nearby Allis-Chalmers district office. Or write to Allis-Chalmers, Milwaukee 1, Wisconsin.

Allis-Chalmers
Milwaukee 1, Wisconsin

Please send me:

- ☐ Technical Sheet No. S7764
- ☐ Reprint of article "Heavier Transformer Loading Is Feasible."

Name

Title

Firm

Address

City State A-3625

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